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By F. SCHUYLER MATHEWS

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FIELD BOOK OF WILD BIRDS AND THEIR MUSIC

A DESCRIPTION OF THE CHARACTER AND MUSIC OF BIRDS, INTENDED TO ASSIST IN THE IDENTIFICATION OF SPECIES COMMON IN THE EASTERN UNITED STATES

By F. SCHUYLER MATHEWS

AUTHOR OF
THE FIELD BOOK OF AMERICAN WILD FLOWERS
FAMILIAR FEATURES OF THE ROADSIDE, FAMILIAR TREES AND THEIR LEAVES, FAMILIAR LIFE OF FIELD AND FOREST, ETC.

WITH NUMEROUS REPRODUCTIONS OF WATER COLOR AND PEN-AND-INK STUDIES OF BIRDS, AND COMPLETE MUSICAL NOTATIONS OF BIRD SONGS BY THE AUTHOR

G. P. PUTNAM'S SONS
NEW YORK AND LONDON
The Knickerbocker Press

4050

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BY
F. SCHUYLER MATHEWS

Twelfth Impression

The Knickerbocker Press, New York

TO

GENEVIEVE AND CARROLL

MY ENTHUSIASTIC COMPANIONS IN MANY A HUNT
FOR THE FEATHERED SONGSTER
THESE WOOD NOTES
ARE AFFECTIONATELY INSCRIBED

PREFACE.

Undoubtedly the thing we love and cherish most about the little wild-wood singer is his song. The music from the Robin sitting alone and apparently cheerless on the bare branch of the elm beside the road is at least a most welcome message with the true ring of springtime about it, even though the meadow is bare of any green thing, and the sky too dull and gray to suggest the advent of the gentler season. The calendar says it is March, but as far as appearances go it might just as well be grim November—except for the presence of the Robin. But fortunately appearances are discounted in a country where the poet has most aggravatingly sung:

"The spring comes slowly up this way."

As though we did not know that without being told as much in verse! The fact is, it really does not come at all as the poets would have it, either early or late. That familiar line of the old English poet,

"Come, gentle spring, ethereal mildness, come";

is entirely unrelated to the order of things in the northern United States; *here* our spring is mostly made up of sentiment connected with extended lists of singing birds and of hurriedly blooming wild flowers; all the rest is weather—and plenty of it! January thaws, February snow-flurries, March gales, July heat, December frosts, August thunder-showers, and November skies! All is out of order except the birds; they come in regular procession, and sing, day in and day out, in spite of the weather and apparently without a thought of the preposterous disagreements of the climate and the weather bureau!

But the songs, what of them! why is the singer recorded in all the books, but never—or hardly ever—his song? Well, the question is a difficult one to answer without finding fault with some one, so it would be best to make this little volume furnish the response. Here

it is, last from the publisher, but first from birds which have sung in the field and on the hillside for the past five years. Whose are the songs, mine? No, I am only the reporter who has listened attentively for a score of vernal seasons to the little feathered musicians of Nature's great orchestra. The volume is literally a field-book filled with the musical sayings of American birds; I have taken no liberties with the scores, except to make a doubtful A or B no longer doubtful. All is a literal transcription, not without certain puzzling phases, of course; for who of us have never been bothered by the rapid performances of expert musicians! Naturally, therefore, some of my records are imperfect; indeed, it is safe to add that some singers sang a great deal more than I was able to put down on paper. I trust, however, that no bird lover will be disturbed by the remarkable records coming from the more talented songsters when he hears what they have done through the interposition of the pianist. If he should doubt my record I would be pleased to introduce him to my bird (or perhaps some other one just as talented) in the field opposite my studio, or on the mountain-side behind it, in the wilds of New Hampshire.

To those kind friends who have greatly assisted me by advice and service in the planning of this work I am glad to extend grateful acknowledgments. Mr. William Brewster has permitted me to sketch in water-color from specimens in his museum. Mr. Walter Deane has been generous in advice. Mr. Frank Chapman has given me ample facilities to sketch from specimens in the New York Museum of Natural History. Messrs. Lee and Shepard have kindly presented me with a copy of Mr. Cheney's *Wood Notes Wild*, and granted permission to quote therefrom. Messrs. Houghton and Mifflin have allowed me to quote from those admirable little volumes of that charming writer and true nature-lover, Mr. Bradford Torrey.* Messrs. Ginn and Company

* Mr. Torrey, above all other authors, has succeeded in succinctly describing the musical rhythm of the bird's song, and has also used practical musical definitions. His writings are of inestimable value to one who pursues the study of bird music.

have permitted me to quote from William S. Long's *School of the Woods.* Also, from the books of Mr. Frank Chapman and Mr. W. E. D. Scott, as well as from the pamphlets of Mr. Ned Dearborn, and Mr. F. E. L. Beal, I have been glad to cull valuable opinions and certain ornithological statistics of indispensable interest.

I have endeavored to paint the little songster in his true colors, and show him in some one of his characteristic positions, flying or singing. Some of my water-colors are satisfactorily interpreted by the three-color process, and others are not. One must not judge of the color of the bird altogether by his picture. The wonder is, that with limited red, yellow, and blue the plate-maker and printer so nearly approached the model. The pictures of the four Thrushes are well preserved, so are those of the Meadowlark, the Cuckoos, the Purple Finch, the Goldfinch, the Indigo Bunting, and the Red-winged Blackbird. Suffice it to say that when the artist gives the printer absolutely *nothing but purity and delicacy of color* to copy, he imposes upon him a task of no little difficulty,—a difficulty for which due allowance should be made in an appreciation of the result.

I do not use such color-terms as rufous, vinaceous, fuscous, and the like, when describing the bird's colors, as it is doubtful whether anybody knows what they mean. Imagine yourself telling the painter to paint your house fuscous, or directing the dress-maker to line your garment with vinaceous! Presumably the ornithologist and the botanist prefer to use a universal language; it has its advantages, so we will forgive them. Yet it would hit a scientist very hard, I suppose, to suggest that he was very unscientific outside of his profession—and a trifle medieval! Otherwise, why does he call crimson, purple! In the matter of color and music, therefore, we will be scientific, and when the bird is crimson we will *not* call him purple, but crimson, and when he sings G sharp we will *not* hunt around for a syllable to represent it, but put it on the musical staff where it belongs!

F. Schuyler Mathews.

Boston, April, 1904.

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AN INTRODUCTION TO BIRD MUSIC.

There is a general idea among many who are interested in birds that musical notation employed as a means to express a bird's song is nearly worthless. Possibly those who are most skeptical in this regard are not the ones who read music readily. If so, I shall hope that the musical key and glossary which follow will prove of great assistance in making plain those simpler principles of music necessary to a proper understanding not only of the musical records within this volume, but of the character of the songs they represent. Of course it is a more or less problematic matter to deal with wild music. It is not amenable in any respect to law. However, the question involved is not whether the bird's song is radically different from ours—we may admit that point—but whether it may be truthfully and logically recorded upon the musical staff. That question, it is the object of this book to answer affirmatively, and with due regard for all the difficulties involved.

Syllables alone can not express the song of a bird; they are wholly inadequate, if not extremely unscientific. A syllable may be spoken or sung in any tone of voice, therefore, it is useless in *locating* a tone. Such consonants as Q, S, and Z are of use only in defining a particular *quality* of tone. Now, as bird songs are composed of a certain number of related tones and a limited degree of pitch, there is but one way to record them; that must be upon the musical staff!

As a matter of fact, syllables are very useful in expressing rhythm or time; but even here they sometimes fail. For instance, one of the best syllabic examples of rhythm is the *Old Sam Peabody, Peabody, Peabody,* attributed to the White-throated Sparrow. Naturally, one would pronounce the name *Pea-bo-dy* evenly; but the bird does not sing this trisyllabic note that way; he sings the first of the three tones to *three* beats, the second to *one* beat, and the third to *two* beats. Only the musical staff can express that fact accurately!

Probably a few birds do sing the three tones evenly but they are exceptions to the rule.

Why each species should have developed and retained an established form of song it is not difficult to understand. The habits, associations, and environment of the bird have had much to do with the formation of his music, and education all the rest. By education I mean that gradual schooling of the imitative faculty, which, conscious or not, has resulted in the attainment of musical tones at once pleasing to the ear. The bird sings first for love of music, and second "for the love of the lady." Advisedly I put the lady second, for, if he did not love music first he would not have sung to her, and birds, like the rest of us, are a trifle selfish. What we like most we think others will like as well, hence, in a moment of unselfishness we share the object of our selfishness!

It is a fallacy to suppose that the music of the wild bird has been, or is, unprogressive; through thousands of years it has advanced to its present form, yet there is every evidence to-day that the progression has been *nihil ad rem!* The fact is, the bird has not arrived; there is still no point to his song! He makes a fine start, but he nearly always fails to finish on the tonic, or, for that matter, anywhere at all. This, however, does not signify a want of progressiveness; it rather suggests a particular form of limitation. He has been imitating his father or his companion, faults and all, and he has not brain enough to understand that the far-reaching law of music demands a finale. Through two, yes, three long seasons (long for him) he has been learning his song, imitating something he has heard, adding his own notes and touches of expression here and there, and settling upon a form which, in principle, will never change. His first impression is a lasting one, and he will never depart from it though he will make a marked, progressive improvement in his handling of the theme.

Every bird sings his own song; no two sing exactly alike. A sharp and retentive ear for musical form can not fail to recognize those subtile differences of tone and expression which make the song of every singer unique.

There are, of course, similarities in the songs of birds of the same species, but the differences, nevertheless, are as distinct as those by means of which the ornithologist has separated Bicknell's Thrush from the Gray-cheeked Thrush! There are immense differences in the individual songs of the Vireos, Finches, Orioles, Tanagers, and Thrushes. For lack of intimate acquaintance with the music of a particular bird we think he sings just like the next one—why! do all roosters have the same crow? No, any farmer knows better than that. And does the youthful rooster sing as well as the old one? Never! Only one thing stands as unalterable in the song of a given species,—that is, mechanical rhythm; the rooster's crow, therefore, will ever be thus: —— — — — —

We think there is a vast mediocrity of singers in Nature's chorus, and only occasionally a supreme soloist! It is scarcely so; the master singer, I fear is often so labeled without that wider acquaintance with the many talented singers which would cause us to hesitate before we hang the card over his neck. I would, I *must*, spend an hour or more in Steinway's warerooms trying instruments before I pronounced judgment on a particular one, and in some respects the choice would be purely a matter of taste. I wonder whether that delicate instrument in the throat of the Hermit Thrush differs so widely from the one made by the hand of man, that the Great Designer succeeded in turning it out like a mere machine, not one whit different from others he had created! No! never does Nature repeat herself; it is *not* one vast mediocre chorus, it is an endless variety of soloists whose voices, filled with tone-color, redundant in melody, replete with expression, and strong in individuality, make up the orchestra which performs every year the glad spring symphony. The Hermit is the great tone artist, the Red-eyed Vireo is the obligato accompanist, the Song Sparrow is the melodist, and the Partridge controls the drums. But every individual ***sings his own song!***

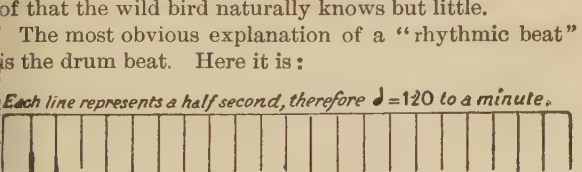
A MUSICAL KEY.

EXTREMELY IMPORTANT TO THOSE WHO DO NOT READ MUSIC.

Success in identifying a bird's song depends more upon the ability of the ear to discriminate differences of rhythm than differences of tone; for, *every species follows its own unalterable law in rhythmic time, no matter how different are the songs of birds of the same species.* This is an apparently irrefragable principle which is the key to an immediate recognition of the singer.

But there are those who entertain a contrary opinion. Mr. Maurice Thompson, in *Sylvan Secrets*, writes: "There is no such element as the rhythmic beat in any bird-song that I have heard. Modulation and fine shades of 'color' as the musical critic has it, together with melodious phrasing take the place of rhythm. . . . The absence of true rhythm probably is significant of a want of power to appreciate genuine music, the bird's comprehension compassing no more than the value of sweet sounds merely as such." Now if the writer means what he says about the "rhythmic beat" he is certainly all astray, but if he is confusing *mechanical time* with the rhythm or "metre" of poetry he is not only wrong but misleading in his use of terms, for no English word expresses *rhythmus* better than the word "time," and I shall presently demonstrate the fact that birds know how to keep time perfectly. But *metre* is a different thing, it implies *proportion*, and of that the wild bird naturally knows but little.

The most obvious explanation of a "rhythmic beat" is the drum beat. Here it is:



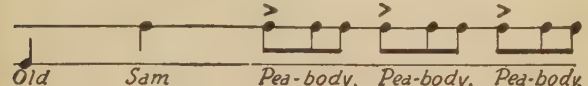
Any child would know what you were representing if you tapped that way on the table. Now the question at once arises, is there any bird that sings in accordance

C
C
C
C
C D E F G A B C D E F G A B C D E F G A B C
MIDDLE C
a second.
a third.
a fourth.
a fifth
a sixth.
an octave.
An ebony key is sharp on the right and flat on the left of an ivory one. That on the right of A is A♯, that on the left is A♭
After this, the sign 8va..... may be used to indicate an octave higher.
8 va.....
etc.
LINES
SPACES
♯ means sharp.
♭ " flat.
♮ " natural.

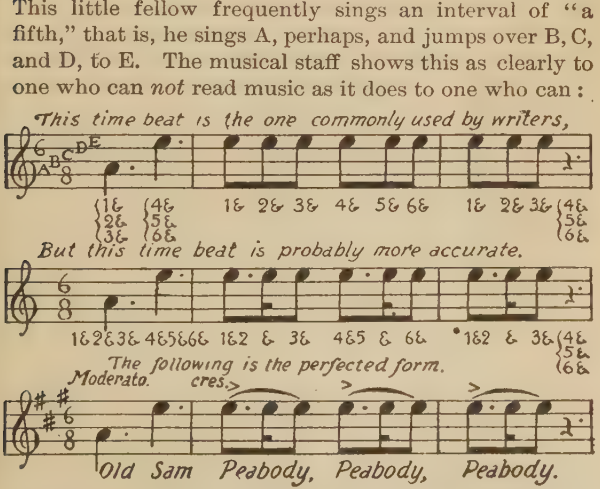
DIAGRAM SHOWING RELATIVE POSITIONS OF NOTES ON STAFF AND KEYBOARD.

with time or a "rhythmic beat"? Yes, not only one bird, but forty! Here is the song of the Black-billed Cuckoo: .. .. or this ... ...
And here is the Robin ... ...
And here is the Flicker .....
And the Black-throated Green Warbler . . ...
And the Nashville Warbler .. ..
And the Whip-poor-will . .. .
Not one of the little fellows above ever gets his rhythm mixed up with that of the other fellow.

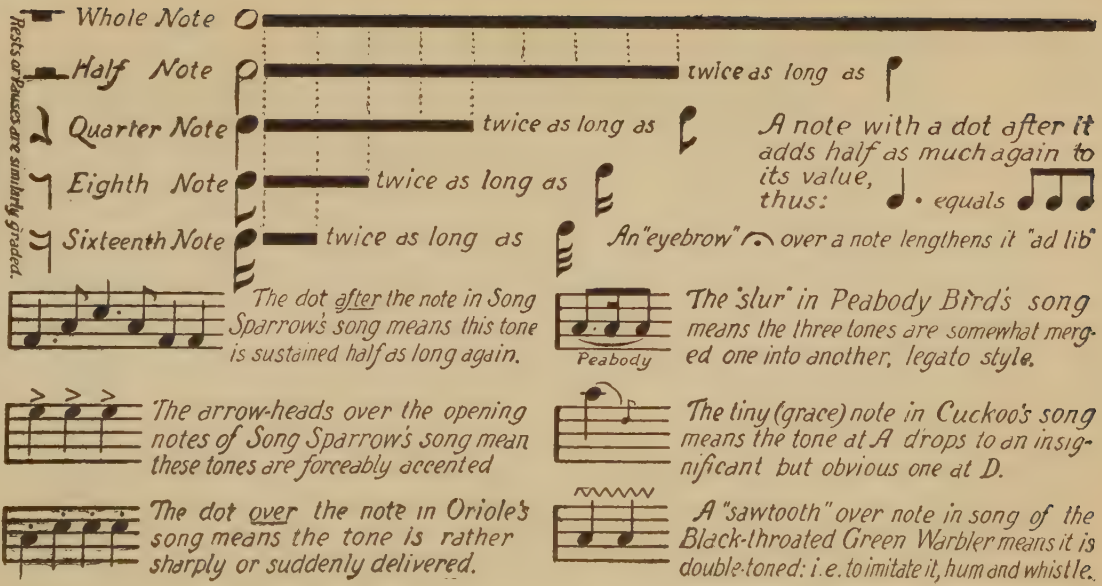
The next step is to become familiar with those mechanical divisions of tone which the musical staff represents. Tones of course are separated by regular intervals.* The simplest demonstration of well-separated tones in connection with the rhythmic beat will be found in the song of the Peabody Bird:



This little fellow frequently sings an interval of "a fifth," that is, he sings A, perhaps, and jumps over B, C, and D, to E. The musical staff shows this as clearly to one who can *not* read music as it does to one who can:


This time beat is the one commonly used by writers,
But this time beat is probably more accurate.
The following is the perfected form.
Moderato.
cres.
Old Sam Peabody, Peabody, Peabody.

*The little bird does not always correctly heed his intervals, he very often sings sharp or flat; but, strictly speaking, no person


Whole Note
Half Note
Quarter Note
Eighth Note
Sixteenth Note
Rests or Pauses are similarly graded.
twice as long as
twice as long as
twice as long as
twice as long as
A note with a dot after it adds half as much again to its value, thus: ♩. equals ♪♪♪
An "eyebrow" 𝄐 over a note lengthens it "ad lib"
The dot after the note in Song Sparrow's song means this tone is sustained half as long again.
The "slur" in Peabody Bird's song means the three tones are somewhat merged one into another, legato style.
Peabody
The arrow-heads over the opening notes of Song Sparrow's song mean these tones are forceably accented
The tiny (grace) note in Cuckoo's song means the tone at A drops to an insignificant but obvious one at D.
The dot over the note in Oriole's song means the tone is rather sharply or suddenly delivered.
A "sawtooth" over note in song of the Black-throated Green Warbler means it is double-toned: i.e. to imitate it, hum and whistle.

A MUSICAL KEY.

Economy of space demands the present compact appearance of the musical staff ; each line as well as each space is used to represent some one of the keys of the piano keyboard. The diagram of staff on page xxii. shows exactly the relationship of the treble staff and keyboard. I have drawn only the four octaves belonging to the upper half of the keyboard, beginning with middle C (close to the keyhole of the piano) and ending with the fourth C above it, because within that compass lie all the notes with which we have to do relative to bird-music. Of these four octaves the lowest one (beginning with middle C) *is entirely below* one's whistle, in fact it is extremely difficult to whistle the second D above middle C so one can be heard any distance away ! As a matter of fact birds' voices are pitched so high, that most of them are somewhere within the compass of the last, highest octave on the piano, and many of them continue to the other side of the wood-work ! This is the case with all of the Warblers. Even the Peabody Bird sings *Old* on the highest F, and for *Sam* and *Peabody* (see the song diagram) jumps an interval of a fifth to the topmost C of the piano. Whistle that if you can, and you will have the correct pitch of this bird's song. Nearly all birds have the ability to jump an interval and hit a tone with a tolerable degree of accuracy.

The diagram shows the extent of the various intervals. The so-called interval of a *minor third*, common in the Field Sparrow's song, is that which includes only *one* ebony key between the three ivory ones. For instance, D, E, F, and E, F, G, and A, B, C, and B, C, D, include but a single "ebony," in their combinations ; all other thirds include two, and are called *major* in contradistinction to *minor* thirds. The song diagram will show the Cuckoo sings a major and the Field Sparrow a minor third.

The so-called slur, or dash connecting two or more notes, is of utmost importance in expressing their char-

does or can sing with a mathematically accurate pitch. We simply come a great deal nearer to the note A than the bird does. It is wholly a matter of degree. So it is well to remember at the outset that there are some very dubious tones which come from Nature's orchestra.

DIAGRAM SHOWING THE PITCH OF TWENTY ONE BIRD SONGS RELATIVELY WITH THE KEYBOARD.

ac :r. The explanatory diagram showing the values of notes demonstrates also the value of the slur in connection with the syllables *Pea-bod-y* which the Peabody Bird sings. In the case of this slur connecting two notes separated by *an interval* as in the Wood Pewee's song, it indicates that the whistle touches by *even gradations all the intermediate tones.* On the contrary, a simple dot over a note expresses the idea that the tone must be given in a *percussive* manner.* My "sawtooth" sign is borrowed in part from the trill sign in music, it is intended to express a *double* tone, which may be demonstrated by whistling the note indicated and humming simultaneously the bass tone at G or G flat, the second one below middle C, or, for that matter, any deep tone convenient to the whistler. The songs of the Scarlet Tanager and Yellow-throated Vireo are strongly characterized by this overtone.

That various birds sing in different keys and in different measures of time goes without saying. The key, however, is a very unimportant matter; but it is necessary to know how it is expressed.

The natural key is the octave C to C (with its intermediate harmonic tones).

Key of G = 1 sharp, begins a fifth above C, at G, and sharps the F.

Key of D = 2 sharps, begins a fifth above G, at D, and sharps F and C.

Key of A = 3 sharps, begins a fifth above D, at A, and sharps C, F, and G.

Key of E = 4 sharps, begins a fifth above A, at E, and sharps F, G, C, and D.

Key of B = 5 sharps, begins a fifth above E, at B, and sharps C, D, F, G, and A.

Key of F = 1 flat, begins a fifth below C, at F, and flats B.

Key of B flat = 2 flats, begins a fifth below F, at B flat, and flats B and E.

*In a few instances a dot, and a dash connecting two notes appear together; this indicates that the tone is whistled suddenly and is left as suddenly for the next one, so the two are pretty closely connected. (See the Oriole's music.)

DIAGRAM SHOWING THE PITCH OF FIFTEEN BIRD SONGS RELATIVELY WITH THE KEYBOARD.

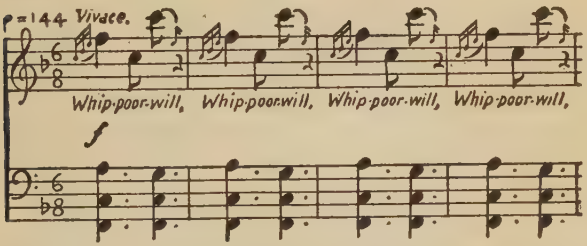
Key of E flat = 3 flats, begins a fifth below B flat, at E flat, and flats A, B, and E.

Key of A flat = 4 flats, begins a fifth below E flat, at A flat, and flats A, B, D, and E.

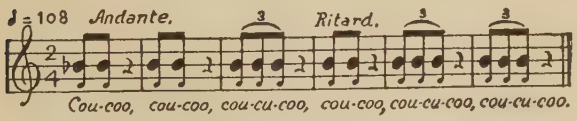
Key of D flat = 5 flats, begins a fifth below A flat, at D flat, and flats D, E, G, A, and B.

I have no records of bird music on the keys six sharps, or six flats which are identical with each other. The signs of sharps or flats belonging to a given key are placed at the beginning of the musical staff.

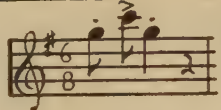
Nearly all birds sing in strictly measured time, many sing a perfect bar, or measure, and a considerable number, several bars. The Whip-poor-will, for instance, sings an endless succession of bars in accurate six-eight time, that is, within each bar (which is marked off on the staff by simple perpendicular lines) will be found six eighth notes or their equivalent in notes or pauses, thus*:



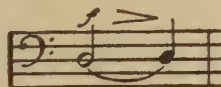
The time $\frac{6}{8}$ is therefore placed alongside of the key signature of *one flat* (which is *B flat*) which means the bird sang in $\frac{6}{8}$ time in the key of F. Again, the Black-billed Cuckoo will frequently sing in two-four time, and we will find two eighth notes and a quarter rest (all of which is the *equivalent* of two fourth notes) in one bar:



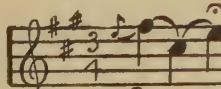
*Not infrequently the *first* bar of a song contains but one beat, represented by a note or notes; in that case the other beats neces-



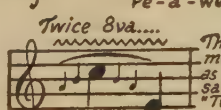
One sharp means the key is G in the Oriole's song. Six-eight time means there are six beats to the bar, two of which are silent owing to the quarter rest 𝄽



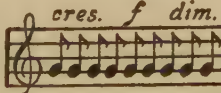
The bass clef 𝄢 means the boom of the Night Hawk is at the first D below middle C; and the tie means the tone is sustained and not repeated.



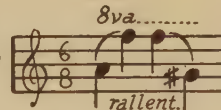
The slurs ⌒ in the Wood Pewee's song mean the tones are run one into another without distinct separation. The eyebrow means an indefinite rest on the note beneath.



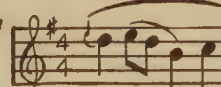
The grace notes in the Phœbe's song mean these tones are only suggested as though swinging between the others. The sawtooth means all are burred, and the "Twice 8va..." means two octaves higher.



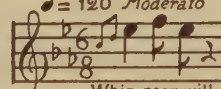
In the Flicker's song the signs cres. (crescendo), increase, f (forte), loud, and dim. (diminuendo), decrease, mean a progression from loud to soft tones.



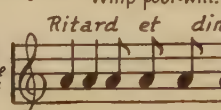
The sign rallent. (rallentando) in the Purple Finch's song means the tones are rendered slower, softer and therefore with more expression. The slurs of course bridge the tones.



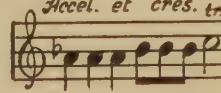
The long dash in the Meadowlark's song means the spanned notes constitute a musical phrase with sense, although incomplete; the next phrase probably will complete the form.



The metronome time in the Whip-poor-will's song means 120 quarter notes occur in a minute, or exactly one Whip-poor-will per second; which is a very moderate tempo for this bird.



The signs ritard. (ritardando), retard, and dim. i.e. diminish, in the Yellow-billed Cuckoo's song mean a gradual slowing up and fading away of the tones.



The signs accel. (accelerando), accelerate, and cres. i.e. increase, in the Field Sparrow's song mean a gradual increase in the speed and volumn of the tones.

And yet again, some other bird may seem to sing as many as six eighth notes, or their equivalent, to a bar, as, for instance, the Song Sparrow, a great variety of whose music will be found among the pages farther along devoted to him.

The fact is, no matter how doubtfully *complete* the song of the little bird proves to be, there is no question whatever about the singer keeping time! He can not sustain a melody of any considerable length, nor can he conform to our conventional ideas of metre, but he *can* keep time perfectly, and a knowledge of his rhythmic method, is, I believe, the strongest factor in his identification by the ear!

This matter of time-keeping is one of the most important elements of music. Naturally, therefore, the drum being a musical instrument, I begin this key by using its beat as the best marked illustration of mechanical rhythm. Now, if we return to this illustration of the drum-beat we will see that within a minute of time a drummer is supposed to *keep the run* of one hundred and twenty time beats, and to strike his drum rhythmically, twice skipping a time beat and then three times not skipping it. Although a singing bird does not keep this mechanical time with any greater degree of accuracy than the artist pianist or vocalist, he does keep it with all the accuracy that *art* demands, and that is more than sufficient for our purpose. I have consequently placed over a great number of the bird songs, the metronome time in which they were sung. People who are undrilled in music are dreadfully heedless of time; they rarely if ever give a note "its face value." To use an apt simile a dollar passes for fifty cents, and *vice versa!* This will *never* do in music; we must heed the relative values of notes and rests and movements in bird songs

sary to complete the bar will be represented by the notes or rests in the *last* bar which will also lack the full complement of beats. The first and last bars, then, will together form but one complete bar. This condition is caused by the song beginning on an *unaccented* note which is usually short and merely introductory to the more important one which begins the next bar. (See the records of Oriole's music for an instance.)

or else we must forever remain in ignorance of their individual character. We may value a half or a quarter note according to our discretion, but once having decided upon that value we *must* sustain it.

If one does not possess that interesting and simple little instrument called Maelzel's Metronome, the following instructions will serve in the construction of an excellent substitute. Attach a small weight to the end of a common tape measure with half, quarter, and eighth inches marked thereon; a penknife suspended crosswise (not lengthwise) will do. The following table will then show the equation of inches and metronome beats; the last are indicated by the number per minute:

60 = 39⅛ inches	112 = 11⅜ inches
66 = 31⅞ "	116 = 10¼ "
72 = 26¾ "	120 = 9¼ "
80 = 21⅝ "	126 = 8¼ "
88 = 18½ "	132 = 7¾ "
92 = 16½ "	138 = 7¼ "
96 = 15½ "	144 = 6⅝ "
100 = 14⅜ "	152 = 6 "
104 = 13⅜ "	160 = 5⅜ "
108 = 12⅜ "	168 = 4¾ "

A GLOSSARY OF MUSICAL TERMS COMMONLY USED IN THE NOTATIONS.

Accel. or **Accelerando.** Faster and faster.

Acciaccatura. A short note which is crushed against the principal note, as it were (i. e., both struck at the same instant), but which is instantly released and the principal key held.

Adagio. Slow.

Ad libitum. At pleasure.

Affettuoso. Tenderly; with feeling.

Agitato. With agitation.

Allegretto. A little quick; not so quick as allegro.

Allegro. Quick; cheerful, joyful.

Andante. The same as Moderato; going at a moderate pace.

Animato. With animation.

Ben. Well, good.

Cadenza. A more or less elaborate flourish of indefinite form, introduced immediately preceding the close of the composition.

Cantabile. In a graceful, singing style.

Chromatic Scale. All the tones, intermediate and diatonic, in successive order.

Con. With; as, *con brio*, with spirit.

Cres. or **Crescendo.** Gradually increasing in strength or power.

Da capo. From the beginning.

Da capo al Fine. From the beginning to the end.

Delicato. Delicately.

Diatonic Scale. The five whole tones and two semitones of any key, in successive order.

Dim. or **Diminuendo.** Gradually diminishing.

Dolce. Sweetly.

Dot. A point placed after a note or rest which adds one half to the rhythmical value of the note or rest.

Dynamics. The force of musical sounds. The degrees range from *pp.*, which is the softest, through *p.* *m.* and *f.* to *ff.*, which is the loudest.

Finale. } The end.
Fine. }

Forte. Loud.

Fortissimo. Very loud.

Fuoco. Fire, energy.

Glissando. Playing a rapid passage on the piano by sliding the tips of the fingers along on the keys.

Interval. The difference of pitch between two tones.

Largo. Slow.

Legato. Connected; each tone of a phrase being continued until the next is heard.

Lento. Slow.

Marcato. Marked.

Moderato. Going at a moderate pace.

Phrase. A short tone-chain which makes sense, but not complete sense.

Pianissimo. Very soft.

Portamento. A gliding of the voice from one tone to another.

Presto. Quickly.

Rallent. or **Rallentando.** Gradually slower and softer.

Ritard. or **Ritardando.** Slackening the time.

Scherzando. Playfully; sportively.

Sempre. Always.

Sforzando. With emphasis on one particular tone; forced.

Sostenuto. Sustained and smooth.

Staccato. Short and distinct; detached.

Syncopation. The displacement of the usual accent, either by cutting it away from the commonly accented beat, and driving it over to that part of a measure not usually accented, or by prolonging a tone begun in a weak beat past the instant when the usual accent should occur.

Theme. A simple melody on which variations are made.

Tonic. The key-tone.

Tremolo. A note made to quiver or shake.

Triad. A chord consisting of three tones—i. e., the tonic with its third and its fifth.

Trill. A rapid alteration of two contiguous tones.

Triplets. Three equal tones performed in the time of one beat.

Vivace. Quickly; sprightly.

FIELD BOOK OF
WILD BIRDS AND THEIR MUSIC.

ORDER *GALLINÆ*. GALLINACEOUS BIRDS.

Family *Tetraonidæ*.

This family includes the Quail, Partridge, and Prairie Hen, etc., all game birds which rely upon their protective coloring for concealment from enemies. As a consequence, they do not fly unless compelled to do so, and then the noise or whirr of their concave, stiff-feathered wings commonly distracts and startles the pursuer, and gives the birds a better chance to escape. As a rule, the family is not gifted with musical calls, but in the broadest sense of the word the crow of the barnyard Chanticleer and the whistle of the Bob-white are among some of the most suggestive and beautiful music of Nature.

Bob-white
Quail
Colinus virginianus
L. 10.00 inches
All the year

Bob-white is one of Nature's best evidences of her principle of protective coloring; one might easily step upon the tail of the bird, mistaking it for some of the old, last winter's leaves—if the tail remained in place long enough! It is almost impossible to enter the thicket or wood frequented by a covey of Quail without experiencing the sensation of being thoroughly startled yourself and of putting to confusion a whole community of peaceful dwellers, for suddenly, without the slightest warning, six or eight panic-stricken creatures appear almost directly under foot, and in hot haste fly for their lives. That would scarcely happen if it were not for the protective coloring; the bird knows it can rely on this and possibly escape detection, therefore flight is a last resort—and one treads close to the tail! The colors of the bird are an ingenious mixture of dead-leaf tints—brown, russet, gray, and white. The throat, region in front of and over the eye, white; upper parts tawny brown, russet, dark gray, and buff; neck *quite dark* bordering on the white throat-patch, then fading gradually into a mottled region of ruddy brown a trifle pinkish, gray, and black; under parts gray-white barred with black; sides *chestnut* broken by gray-white spots and margins of black; tail rather insignificant, and an

ashen gray. Nest, on the ground usually in grassy places; it will contain from ten to sixteen white eggs.

The bird is a prolific breeder, and one may often find a nest with as many as fifteen eggs in it. It is also the case that the hen bird will successfully raise two large broods in one season.

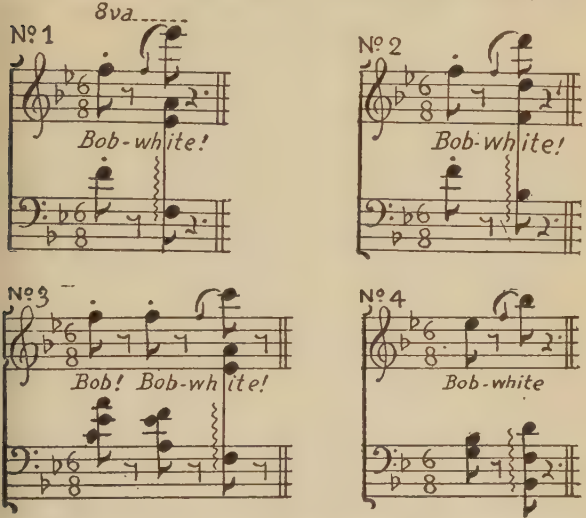
The Quail is generally not a migrant; it ranges south from southern Maine and New Hampshire to the Gulf of Mexico, and westward to eastern Minnesota. It is not a characteristic woodland bird, and as a consequence is ill-fitted for the exposure of our hard northern winters. I know of no Quail whatever in central New Hampshire, save the few which have been brought there, and there is no doubt but that most of these have perished.

The Quail is by no means the least among the members of Nature's orchestra. As his name implies, his song is simply one of two tones admirably represented by the syllables, *Bob . . . white!* But one must whistle them, or do the difficult trick of whistling and saying the words simultaneously. Nor is this all, the word *Bob* should be rendered staccato—it must fairly bounce like a ball, so short must it be, and the *white* should be a long slurred tone extending all the way from *Bob* to the end of *white*, a range of at least five or six tones. To illustrate the song by the aid of the piano one should strike F (the third one above the middle C) quickly, as though the ivory were hot, and again the second time, jumping at once from it to D sharp. This is what a musician would call an *augmented* sixth, and that is what may be considered the nearest approximation to the range of the Quail's voice. I sometimes think it is only a plain sixth (see song No. 2) without the extension (or augmentation) of the D to E flat,* and again at another time I am sure I hear a full seventh. One can not lay down a rule about such a thing as that; wild music must of necessity be more or less free from the restrictions of accurate pitch. Nor does the Quail always whistle F or make a jump as high as a sixth. Song No. 4 is what the bird gave me in the middle of May, 1900, in the Arnold Arboretum,

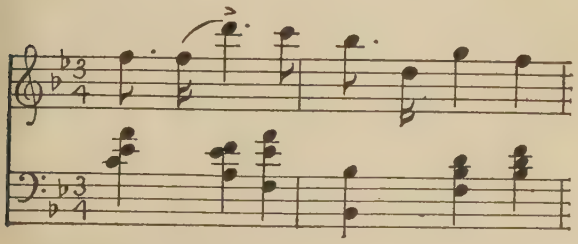
*Properly *written*, the augmented D is D sharp; but D sharp and E flat are identical.

Bob-white

near Boston. The key is the same, but the bird began on E flat, and jumped from F up to B flat. It need not be supposed that the Quail confines himself to *Bob-white* either, he frequently throws in an extra "bob" (see song No. 3). Mr. Cheney, in *Wood Notes Wild*, also



records a similar song. There was a children's May-song, popular, I remember, in the public schools of New York years ago, at the time George F. Bristow was principal instructor of music, which began with Bob-white's call, in a sixth.



How rare the Quail is along the northern border of its range, not only my own but Mr. Cheney's testimony

will prove, for he says: "Familiar as I have been with almost all parts of Vermont for more than thirty years, I have seen only one Quail in the State, and he was evidently a 'tramp.'"

Mr. Ned Dearborn writes in his *Birds of Durham, N. H.:* "While the Quail is a permanent resident, its numbers vary greatly from year to year. In the fall of 1897 they were plentiful, not less than fifty living within a radius of two miles of the college. Comparatively few were shot, yet in the spring they were nearly all gone, and for the next two years they were scarce. In 1900 they were fully as abundant as in 1897." He also writes in his *Birds of Belknap Co., N. H.*, that Tilton is "about the northern limit of the Quail's range"

The habits of the birds are, to say the least, peculiar. Descend suddenly upon a mother with her chicks and she immediately goes crazy, leaves her offspring (which at once scatters for cover), and proceeds to flop along the ground as though injured, all the while uttering alarm-notes and frightened chirps! But this is done mostly for effect; if it distracts the mind of the intruder, so much the better chance for escape; and truth to tell, in less than three seconds there is not a trace of mother or chicks in the neighborhood. In case a covey of mature birds are scattered, for quite a while afterward one may hear them calling themselves together again by peculiarly expressive minor notes singularly like those of young chickens. They usually roost on some little hillock in pasture or field, in a closely huddled group, tails in and heads out; in this position, so admirably adapted for defence, a charge by the enemy is often repulsed with success and brought to utter confusion. The sudden whirr and flap of a lot of wings is no ordinary thing to face; it would unnerve even the crafty fox, and one may easily imagine him creeping unguardedly upon what —to quote Mr. Chapman's excellent description—will shortly prove to be "a living bomb whose explosion is scarcely less startling than that of dynamite."

Partridge
Ruffled Grouse
Bonasa umbellus
L. 16.00 inches
All the year

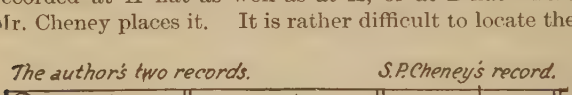
There is no doubt about it at all, here is the kettledrum of Nature's orchestra! The talented performer can not be excelled in his wonderful *accelerando* even by the expert who manages the "kettles" in Theodore Thomas's Orchestra. The "drum" of the Partridge is a most mysterious practice of this favorite game bird. Nearly all of us have seen the Partridge, many of us have heard the drumming, but who — to quote William Hamilton Gibson — "who, will show us the drum?" In appearance the bird resembles his smaller relative Bob-white. The prevailing colors are red-brown variegated by marks and spots of sepia, black, ochre-buff, and dull white; the broad tail is margined by white, and this is limited by a broad band of black or blackish sepia; sides of the neck marked with glossy black or sepia-black feathers; the breast indefinitely but the sides rather definitely barred. The female is similarly but not so strongly marked. The nest is on the ground usually beneath a tree or among brush; it may contain from eight to twelve eggs, rarely more, of a buffish tint. The range of the bird is from Virginia and along the mountains to Georgia, and northward to Canada. It is usually very plentiful in Campton, N. H., except after a rainy season. Its diet is comprehensive, including innumerable seeds, berries of all kinds, apples, haw apples, buds of many kinds, leaves of clover, sorrel, crowfoot, and dandelion, and insects such as locusts, grasshoppers, crickets, caterpillars, and beetles.

There has been no end of theorizing by eminent naturalists and others interested, regarding *the way* the Partridge drums his drum. But I think all opinion may be set aside in the face of the fact that the sound is produced by the concussion of air caused by the rapid movement of the wings; the latter apparently strike the breast; in reality they do not, for close observation shows that the wings are brought considerably forward while the body of the bird is stretched to a position as nearly perpendicular as possible.* One good view of a

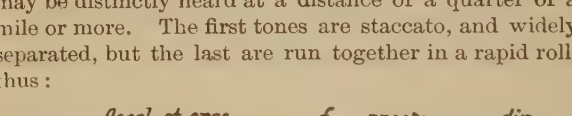
*Not *always* though, for my own observations are not altogether unlike those of others, who state that he does *not* stand upright!

bird drumming ought to be a sufficient demonstration of the fact that the air has everything to do with the case and the body of the bird little or nothing at all. It is the air that booms under the rapid lashing of the wings, just as it is the air which sings in a baritone voice through the primaries of the Nighthawk's wings as he drops like a shot through the sky.

The tone of the Partridge's kettledrum may be safely recorded at A flat as well as at A, or at B flat where Mr. Cheney places it. It is rather difficult to locate the



tone with exactness, as it lacks life and character, but it may be distinctly heard at a distance of a quarter of a mile or more. The first tones are staccato, and widely separated, but the last are run together in a rapid roll, thus :



Upon seeing the bird go through this remarkable performance one is struck with amazement, for at the end he subsides into utter quiescence instead of flying all to pieces! Why the stump or the rock on which he is perched is not at once covered with every feather from his body it is difficult to understand. But no, he still holds together, and probably if one waits a few more minutes he will be at it again. Watch him closely, and presently the head begins to bob up exactly like that of a rooster before he begins to crow, now the wings are spread and jerk back and forward with a hollow thud at each movement, and the next moment the whole bird is a *blurr of feathers* and the air is filled with a rushing whirr which is swiftly graduated to a finish as the body of the creature becomes distinct and quiet once more.

Partridge

Then it is, as Mr. Cheney says, "he drops into the forlornest of attitudes, looking as if he would never move again."

In winter the Partridge finds an abundance of food in the northern woods. Partridge berries, wintergreen (*Gaultheria procumbens*), tree buds, and a host of things common in the winter woods make up his diversified menu, so he does not starve. Nor does he freeze to death in the coldest weather, for he burrows under the snowdrift and finds in its shelter a comfortable bedroom in which to spend the night secure from the prowling fox. His feet also are amply protected from the frost by a thick growth of stout bristles arranged along the toes; these bristles, like snowshoes, serve to bear him up in walking over the snow. The growth begins in October, but by the first of April it has entirely vanished.

The Partridge acts very much like the Quail when he is flushed: suddenly there is a buzz and a whirr almost at one's feet and a frightened bird rises with violent haste, uttering hysterical notes of alarm, and flies off horizontally into the depths of the forest, leaving the intruder with nerves so badly shaken that his aim is spoiled and his gun useless. I quite unexpectedly came upon a hen bird with her chicks one summer's day, and the commotion that ensued was out of all proportion with the occasion; there was a tremendous rumpus among the dried leaves as the little chicks scattered, and the distracted mother promptly lost her wits in the endeavor to leave the spot in several directions at once. There were whistles, and chirps, and clucks pitched in a high key at all points of the compass, then I added a few plaintive chirps of my own as an experiment; back came the mother in reckless panic, with every individual feather on end, and to my amazement flew at my legs in a maddened fury! I had quite a lively time for a few seconds, and then, when her purpose of checking me was accomplished, she flew abruptly away, probably saying to herself—for she still vociferated loudly—"Thank goodness! I made that old goose concentrate his attention on me, and the children are safe!"

ORDER *RAPTORES*. PREYING BIRDS.

Family *Bubonidæ*. OWLS.

This family includes a great number of species about twenty of which inhabit North America. Of these the Great Horned Owl, the Barred Owl, and the Screech Owl furnish the most representative differences of type, if not of voice. The syllables of the Barred Owl, according to Mr. Chapman (and my own observations have led to a similar conclusion), are, *whoo-whoo-whoo, who-hoo, to-whoo-ah*. The difference between this hoot and that of the Great Horned Owl, whose record follows, is apparent at a glance, but there is also a rising inflection to the voice of the Barred Owl, which is a better point of discrimination. Farther than this, from a musical standpoint, it seems unnecessary to go, as Owls can scarcely be classed among the song-birds. They are raptorial, and their voices convey to the ear a very tolerable idea of their character.

The Owl's eye is fixed in its socket; as a consequence the head turns around as though it were fixed upon a pivot. I imagine the Owl is therefore a perfect example of what, according to current slang, is termed the rubber neck!

Screech Owl
Megascops asio
L. 9.30 inches
All the year

It is an open question how many birds one is justified in including among the so-called singers. Certainly the Screech Owl is not on the "prohibitive" list of song-birds issued under the laws of the State. But to one who studies bird-music there can be little doubt about the Screech Owl; he deserves an important position among the soloists, the quivering tremolo of his remarkable voice has in it the very essence of music, the expression of "thoughts too deep for words" embodied in tones of deepest mystery, for whether these tones are properly described as *dulcet* or *blood-curdling* is altogether a matter of opinion dependent upon the listener's state of mind.

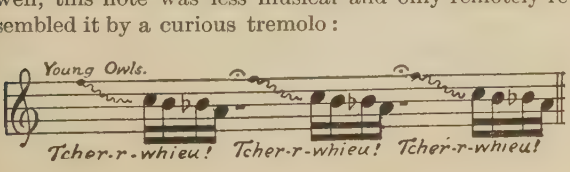
The colors of the Screech Owl are a mixture of mottled brown, chestnut, ash-gray, black and ochre, on a gray

Screech Owl

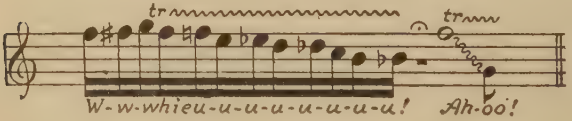
white ground. There are two color-phases of the bird, one is warm and ruddy-toned, and the other is cold and gray-brown-toned. The beautiful eyes are a topaz yellow. The nest is generally in the hollow of an apple-tree, or some other tree not far from a dwelling. The eggs are pure white.

When one considers the character of this Owl's song in connection with his bill of fare, it is not surprising that the former is somewhat indicative of the nature of the latter. What with mice, small birds, snakes, and frogs as a standard diet, why should not one's song savor of the terrible, and cause the listener's blood to run cold! To be sure that breathless falling of the voice seems to denote exhaustion, and the quavering tones abject terror, but after all this is pure imagination, for the next moment the voice suggests that of an operatic singer practising the descending chromatic scale! Whatever the eerie cry seems like, whether the screech of the pioneer's wife as she is scalped by a red-handed Indian under the cold rays of an indifferent moon, or the technical practice of the "prima donna," one thing is certain, all who have ever heard the strange song agree that there is something uncanny about it! Mr. Chapman writes: "When night comes one may hear the Screech Owl's tremulous wailing whistle. It is a weird, melancholy call, welcomed only by those who love Nature's voice whatever be the medium through which she speaks." Mr. Ned Dearborn also writes, "The uncanny cry of a Screech Owl once heard will never be forgotten."

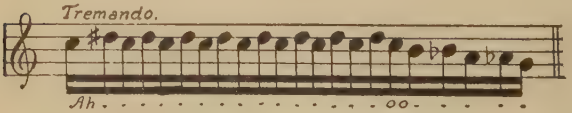
On one occasion several summers ago, I was hurriedly invited about sundown by one of the members of the family, to investigate the nature of a strange voice that issued from the border of the woods near the cottage. Although I knew the note of the Screech Owl perfectly well, this note was less musical and only remotely resembled it by a curious tremolo:



So I concluded to put the matter to the test by giving sonorously the full Screech Owl song in a series of quavering whistles running down the scale. In less than five seconds there appeared in the dusk of the evening half a dozen young Screech Owls, who flew about with silent wings, and at last perched upon the rustic fence, the arbor, and the old boat which was filled with garden flowers. They had answered my call promptly, and had come to see "what was up!" Their notes were simply weird, a sort of cross between a sneeze and the wheeze of a pair of leathern bellows with the wail of a "half-frozen puppy" (Wilson's simile) thrown in to make matters more mysterious! I shortly came to the conclusion that these were young birds which had not yet learned to sing properly, so I gave them a lesson or two, at the same time profiting by the experience, and getting in a few lessons for myself. The interview proving satisfactory or unsatisfactory (I do not know which) the birds flew



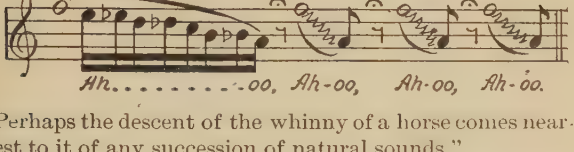
away. But I had got a new idea of variety in Owl music, and had learned that the following familiar dulcet tones were not by any means all of the repertoire of the Screech Owl.



My annotations have, in most instances, proved very similar to those of Mr. Cheney whose verbal description of the song can not be improved upon. He writes: "This owl ascends the scale generally not more than one or two degrees" (i. e., one or two tones); "the charm lies in the manner of his descent sometimes by a third, again by a fourth, and still again by a sixth. I can best describe it

Great Horned Owl

as a sliding *tremolo*,—a trickling down, like water over pebbles:

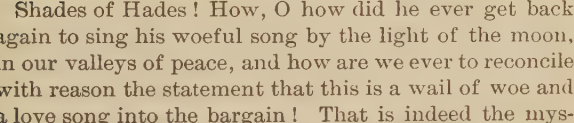


Perhaps the descent of the whinny of a horse comes nearest to it of any succession of natural sounds."

But whatever may be our estimate of the song, the fact remains it is bound up in mystery and carries with it a dubious kind of birdlike despair. This Owl must have accompanied Dante through that dreadful doorway over which was written the fatal words:

"Abandon hope all ye who enter here."

Shades of Hades! How, O how did he ever get back again to sing his woeful song by the light of the moon, in our valleys of peace, and how are we ever to reconcile with reason the statement that this is a wail of woe and a love song into the bargain! That is indeed the mystery of it.

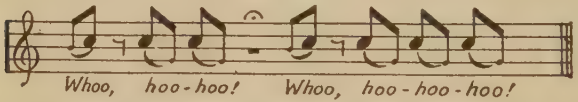


Great Horned Owl
Bubo virginianus
L. 22 inches
All the year

The Great Horned Owl is the only large-sized Owl with conspicuous ear-tufts, hence his significant name. He is, according to all records, "the tiger among birds," destructive to small birds, quail, and even poultry, not to speak of reptiles, insects, small rodents, and even rabbits. In color this Owl is a mottled brown with varied tones of ochre and sepia, accented with black; ear-tufts black with touches of ochre; face around the large, topaz eyes, yellow ochre; throat with a wide white patch; under parts buff-ochre narrowly barred with black. Female similar, but larger. Nest, in trees, probably that of a Crow, or Hawk, and not

infrequently that of a gray squirrel. Egg, white. This Owl is resident throughout its range, which extends from Labrador southward through eastern North America. His preferred home is the forest.

Certainly this "tiger" bird can not be included among the *song* birds, but as certainly we can not throw out his hoot from musical calculation. Mr. Cheney writes: "One winter, after six weeks of cold, perhaps the severest in fifteen years, the weather moderated, and the 3d of March was a comparatively mild day. An Owl felt the change, and in his gladness sent down ponderous vesper notes from the mountain, which, as they came booming across the valley, bore joy to all that heard them. . . . The Owl did not change the weather, the weather changed the Owl." So much for sentiment in the hoot of an Owl! The usual syllables of the hoots are—*Whoo, hoo-hoo, Whoo, hoo-hoo-hoo,* and the effect is like that of a bass whistle belonging to a Sound steamer when it is heard at a distance, although the tone is not so deep. There is a drop of at least a fourth to the



two shorter last syllables. Mr. Cheney's record is almost identical with this; the difference is trifling, as he says: "The first of these tones was preceded by a grace note, the second was followed by a threadlike slide down a fourth, and at the close of the third was a similar descent of an octave. Neither slide, however, ended in a firm tone." This exactly describes the nature of the tones, and it is unnecessary to say more, except that few writers have given us any record of the *scream* of the creature.

When that note comes one will think he hears the "crack o' doom." If the Screech Owl's note is weird,

this is horrible ; it has the sound of murder in it ; no cat on a back-yard fence can produce a yell as hideous ! Mr. Chapman says this call "is a loud piercing scream, one of the most blood-curdling sounds I have ever heard in the woods." From a creature whose habit it is to be out all night hunting, one must expect something grewsome Upon hearing the screech for the first time one's mind instinctively reverts to those lines in Scott's *Lady of the Lake :*

> "At once there rose so wild a yell
> Within that dark and narrow dell,
> As all the fiends, from heaven that fell,
> Had pealed the banner-cry of hell !"

Thus far, nobody has ventured to call this note the Great Horned Owl's love song !

ORDER *COCCYGES*. CUCKOOS, ETC.

Family *Cuculidæ*.

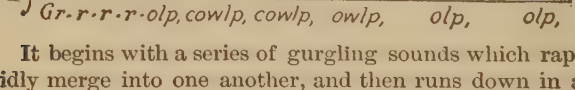
There are over one hundred and seventy known species of Cuckoo in the New World, and these are mostly tropical birds. Our two common Cuckoos, the Yellow-billed and the Black-billed, differ from the Old World Cuckoo (*Cuculus canorus*) in their laudable habit of hatching their own eggs, and taking care of their young. These are the only species in the United States.

Yellow-billed Cuckoo
Coccyzus americanus
L. 12.10 inches
May 10th

The Yellow-billed Cuckoo scarcely deserves a position with the songsters, for his note is almost entirely without *pitch*. His near relative the Black-billed Cuckoo is by far the better singer ; nevertheless, the Yellow-bill's attempts at rhythm are not without m it, for he can give us a *ritardanto* as perfect as that of the Chat. The Cuckoos are slim, long-billed, dove-like birds whose general tone of color is brownish lilac, or dove-colored light brown with a slight touch of iridescent green above, and a grayish white beneath. The sexes in both species of Cuckoo are alike in color. The

Yellow-bill is a trifle larger than the Black-bill, and is distinguished readily by the presence of yellow on the under mandible, though the rest of the bill is black like that of the Black-bill. The tail feathers of this species, too, are broadly white-tipped. The nest is the roughest kind of an affair constructed of bits of sticks, twigs, and grasses, and is generally lodged in the branches of a low tree or among the bushes. The egg is a light, greenish blue. The bird is distributed throughout the East, but is less frequent (in the northern part of its range) than the Black-bill.

There is very little to say about the Yellow-bill's music—perhaps the less said the better. Mr. Cheney sums up the matter in these few words: "The Yellow-breasted Chat exhibits the same rhythmic peculiarity in his chattings, and so does the Woodpecker drumming on a board or dry limb for the mere sound of it; but in quality nothing can be compared with this slopping performance, unless it be that of the loose-mouthed hound lapping from a pan of milk." It is evident that no one can improve on that description. The song written out should appear about like this, though one could never promise that the tone was exactly A:



It begins with a series of gurgling sounds which rapidly merge into one another, and then runs down in a slower and slower succession of syllables sounding like *cowlp, cowlp, cowlp, cowlp, cowlp.* It is a perfect *ritardando* which could not be excelled by the Chat himself who is an expert at that sort of thing.

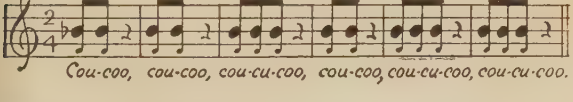
The Yellow-bill is a solemn, silent-winged bird devoted to the interests of the orchard; if there are plenty of tent caterpillars he is happy and will do some execution in a remarkably short space of time. Mr. Chapman writes that in examining the contents of the stomach of one of these birds he found "the partially digested remains of forty-three of these caterpillars."

Black-billed and Yellow-billed Cuckoos

Black-billed Cuckoo
Coccyzus erythrophthalmus
L. 11.75 inches
May 15th

The Black-billed Cuckoo is distinctly a more musical bird, although his song embraces but two well-defined tones only *one* of which is commonly prominent. In appearance he resembles the foregoing species, with a few minor differences. Upper parts brown-gray with a greenish iridescence; the tail feathers not black and only narrowly tipped with white; under parts dull white; bill entirely black. The nest is similar to that of the preceding species, but the egg is a deeper tone of green-blue. This bird is also a wholesale destroyer of the tent caterpillar; he is distributed farther north than the preceding species.

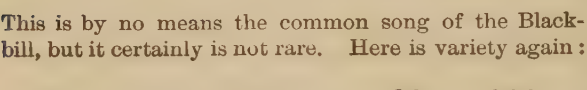
The most distinct feature of this Cuckoo's song is the rhythmic recurrence of the *rest*. This is a thing as easily recognized by the unmusical as the musical listener. When one hears a series of rhythmically interrupted monotones coming up from the meadow, there can be no doubt about the singer, it is the Black-bill! No other bird sings exactly that way. I can perfectly demonstrate the principle by a series of dots to represent the notes, thus: .. .. But the bird does not always stick to couplets, ... nor does he particularly favor triplets, ... nor is he unmindful of the fact that even in music "variety is the very spice of life" .. .. It is apparent, then, that however irregular the number of the notes, the principle of rhythmic pause remains irrefragable. So perfectly timed is this pause, that upon



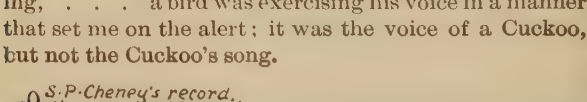
setting the metronome to the song the bird will be found singing with almost mechanical accuracy. There is also another well-marked feature of the Cuckoo's song. Listen attentively to the quality of a single tone and it will at once become apparent that it is accompanied by an undertone (properly an *overtone*) of a more or less

obscure interval of a third or fourth (as in above record) Again, these tones are at times so distinctly separated that they assume an individual independence, with the intervals no longer obscure:

This is by no means the common song of the Black-bill, but it certainly is not rare. Here is variety again:

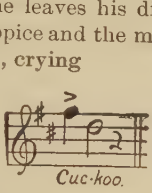


the little musician is not content until he shall ring all the possible changes of such vocal limitations! Mr. Cheney is also an authority for the statement that this bird is quite capable of singing his song in two well-separated tones. He writes: "Early one June morning, . . . a bird was exercising his voice in a manner that set me on the alert; it was the voice of a Cuckoo, but not the Cuckoo's song.



The instant I heard 'Cuckoo' . . . giving the interval of a fourth, I experienced a thrill of satisfaction such as no similar discovery had afforded. Other ears, sharper than mine, had heard all, unknown to me; and there was great rejoicing,—the Cuckoo was learning to sing!" But I have long been of the opinion myself that the Cuckoos, all of them, were birds whose voices were set in two distinct tones; in the case of the American species it has simply been a question of its ability to separate or individualize those tones. The European

Cuckoo does that to perfection, and he has been celebrated most thoroughly by the musician, the poet, and the Swiss manufacturer of clocks. Long years ago (1832) an Englishman, William Gardiner, wrote: "The plough-boy bids him welcome in the early morn. Borne by fragrant gales, he leaves his distant home, for our sunny spots—the coppice and the mead. Children mark his well-known song, crying



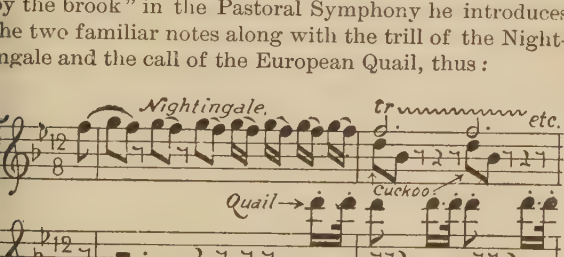
One of the most beautiful poems in the English language is that by John Logan, *To the Cuckoo*, written somewhere about 1775, and beginning:

"Hail, beauteous stranger of the grove!
Thou messenger of spring!
Now heaven repairs thy rural seat,
And woods thy welcome sing."

And he does not forget the natural imitativeness of the child, for he continues:

"The school-boy wandering through the wood
To pull the primrose gay,
Starts, the new voice of spring to hear,
And imitates thy lay."

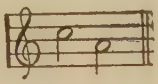
Nor does the greatest of all musicians, the immortal Beethoven, fail to recognize the perfection of simplicity in the Cuckoo's song, for near the close of "The scene by the brook" in the Pastoral Symphony he introduces the two familiar notes along with the trill of the Nightingale and the call of the European Quail, thus:



But probably one of the best things that has ever been written with the Cuckoo's song for the theme is the nursery melody by Joseph S. Moorat, an English musician, which appears on the opposite page. Theodore Marzials says of it: "If you want a breath of fresh air straight from the heart of the hills, play over 'Cuckoo, Cherry-tree' . . . it 's as good as an hour on the moor-side." But we have not yet gauged the popularity of the Cuckoo. Go as far back as the time of Queen Elizabeth, and he already appears an acknowledged musician, for Shakespeare writes,

> "The finch, the sparrow, and the lark,
> The plain-song cuckoo gray."

The estimate of the great poet is close to the truth, for the song, a drop of the minor third, is one of the com-

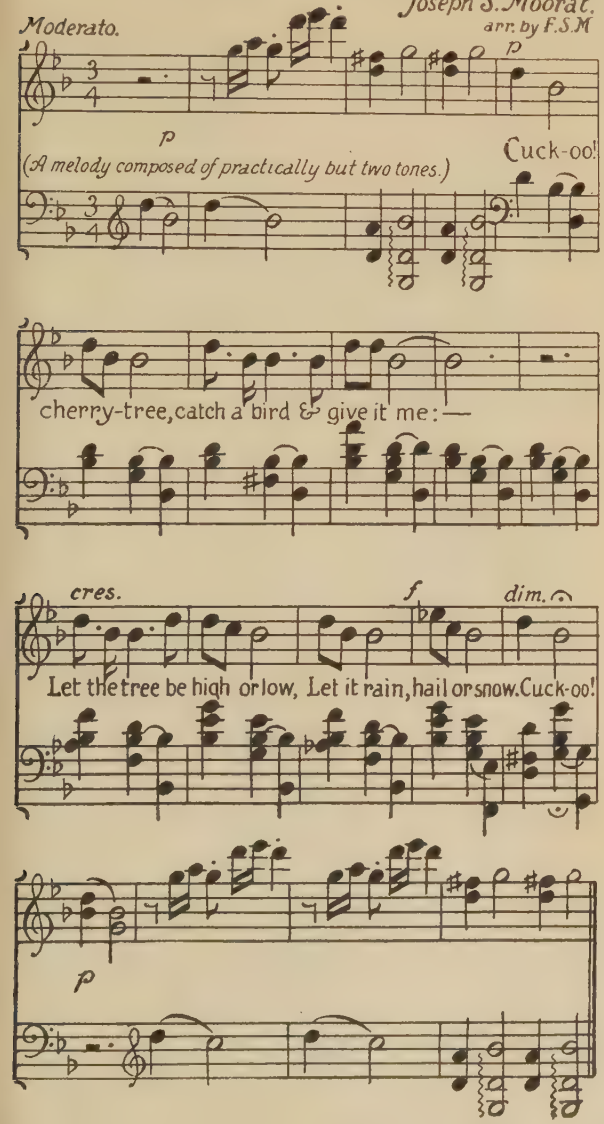


monest occurrences in old-time plain-song versicles and responses, and was actually introduced by Marbecke into the closing sentences of the Lord's Prayer.

When one pursues a study of the simple forms of melody, it is indeed remarkable to note how exactly similar these are to the songs of the birds. In our American Black-billed Cuckoo, we have not only a musician capable of giving us an interval of a third or fourth, like his English cousin, but one who appreciates the value of measured silence such as that which characterizes the opening bars of Beethoven's Fifth Symphony. We also possess a bird of more character too for the female builds her own nest and hatches her own eggs, which is more than can be said of her foreign relative!

CUCKOO! CHERRY-TREE.

Joseph S. Moorat.
arr. by F.S.M



Downy Woodpecker

DOWNY WOODPECKER.

ORDER *PICI.* WOODPECKERS, ETC.

Family *Picidæ.*

The Woodpeckers are generally solitary birds, characteristically busy at all hours of the day, and little given to social intercourse with their fellows. The skull and chisel-like bill of the little "hammerer" are remarkably strong, and wonderfully adapted to chip away bark, and expose the retreats of bugs and grubs; also, an exceedingly long, sharp tongue is peculiarly adapted to draw out the hidden insect. The Woodpeckers are not singers, but their bills are really the equivalent of drum-sticks with which they rap out a rolling tattoo, a summons to their lady-loves! The rigid, pointed tail feathers of the birds assist them in maintaining a perpendicular position, through pressure against the rough bark of the tree.

Downy Woodpecker
Dryobates pubescens
L. 6.75 inches
All the year

This is the smallest and commonest Woodpecker we have, and it is resident throughout that range of country which extends from Florida to Labrador. Its marking is a pronounced symphony in black and white accented by a red band; a broad stripe of white runs down the centre of the back; wings black numerously spotted with white; a scarlet band on the nape of the neck; middle tail feathers black, but the outer ones white *barred with black;* two broadish white stripes, one above, the other below the eye extending backward. The Hairy Woodpecker is similarly marked, but the outer tail feathers are white *without* bars, and it is nearly half as long again from bill to tail. The nest is usually in the hole of a dead limb; the egg is pure white. The female is marked like the male, but the red band is absent.

Both birds are indefatigable workers in the building of the nest, but the female apparently loses a great deal of time in critically examining the premises. She explores every nook and cranny as soon as the male bird has chipped away a satisfactory round opening, and then falls to with him at the grand act of excavation.

If there is already a hollow in the tree of small size it is enlarged to the required dimensions in a remarkably short space of time, but still the housewife seems to entertain some doubt about matters in general, and wastes more time "poking around"! Wilson seems to approve of this questionable vigilance and remarks as follows: "Before she begins to lay, the female passes in and out, examines every part, both of the exterior and interior, with great attention, as every prudent tenant of a new house ought to do, and at length takes complete possession."

Such good carpenters as these deserve a better name, but it is ever the case that mankind sums up the character of the bird in a trivial manner and labels him flippantly! Indeed sometimes we are not above cracking a joke on the label. It is in *The Spenders*, I believe, that the farmer tells of his economical experiment in feeding his setting hen on sawdust, and finishes with the statement that of the thirteen eggs hatched out, twelve produced chickens with wooden legs and the thirteenth a woodpecker! Alas for the carpenter-bird, he is not appreciated; he carves his home in the heart of the apple-tree, smooths its sides with the skill of a cabinet-maker, taps at the door of every insect that lives in the vicinity with a summons as inexorable as that of the Great Destroyer, and drums a rolling tattoo on a resonant limb or a telegraph pole in a master fashion that would "beat the band."

There is the musicianly part of his character; he is a member of the drum corps who sounds a reveille for the mere love of it, or, to speak more exactly, "all for the love of the lady." We should make no mistake about this, he is signalling for his mate, and if we stand by long enough it is possible we may see her. This summer I listened to a rousing, rattling tattoo on a telephone pole near my cottage that could have been heard fully a quarter of a mile away, and after its second repetition, I saw two Downies where a moment before there was but one; so she had arrived! What few notes the Downy has may be compared to the ring of a marble quarrier's chisel—to borrow an apt simile by Mr. Chapman. He

Flicker

utters a metallic *chink, chink,* while he is at work, or a quick succession of these syllables as he flies to another tree. The notes of the Hairy Woodpecker are about the same, but louder. Both birds in the rapid repetition of their notes resemble the noisy Flicker. The Downy differs from Woodpeckers in general; he is a sociable chap, for I notice he is always around when a flock of Chickadees and a Nuthatch or two are inspecting the old apple-trees on the grounds. I generally look for the visits of this self-appointed committee of investigation in early autumn; probably they are continued at irregular intervals throughout the winter.

Flicker
Golden-winged Woodpecker
Colaptes auratus
L. 12.00 inches
April 1st

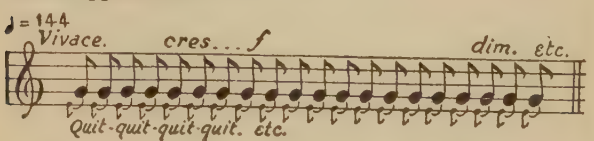
This is one of our largest as well as noisiest Woodpeckers. When he begins to shout his monotonous information about the rain,* all other birds may as well remain silent, for his clamor makes the welkin ring! Although his song is heard not before early spring, he is one of the few plucky birds which braves the severity of our northern winters and stays with us the year around if the food supply seems promising. His colors are varied: top of the head gray; a scarlet band on the back of the neck; a patch of white on the lower part of the back, and considerable yellow showing beneath the tail and wings during flight; back, upper parts of wings and secondaries brown-gray barred with black, the primaries and tail feathers black with yellow shafts; throat and sides of the face pinkish brown; a broad black band extending backward from the base of the bill, and a broad black crescent across the breast; lower parts dusky white marked with round black spots. Female similar but without the black band on cheeks. Nest in a deep hole probably of an apple-tree, the entrance ten feet up, round, and not very large; the bird may or may not have excavated the hole, he is likely to remodel or enlarge one caused by decay. The egg is pure white. The bird's range is

*Most writers render his song thus: "Wet, wet, wet, wet, wet, wet," etc.

from the sea-coast to the eastern slope of the Rocky Mountains and Alaska.

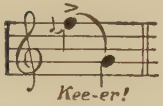
The Cuckoo knows the value of silence, the Flicker does not. The former runs along rhythmically with his song, thus: *dim.* . . . . . ; the latter keeps straight on with the clattering tongue of a termagant, thus: *cres.* . . . . . There is the same effect of a subordinate tone in the Flicker's song as there is in that of the Cuckoo, but how absolutely different are the characters of the singers, and how perfectly manifest in their songs! The Flicker is a noisy, aggressive bird, who publishes his whereabouts immediately upon his arrival with a clamor equal to that of the hysterical hen announcing the new-laid egg! The Cuckoo, on the contrary, is a retiring, quiet character who falteringly and soothingly announces his return to the "old stand" with due apology to those who may possibly disapprove. The Flicker sounds as if he were whistling for the dogs to drive him off, the Cuckoo sounds as if he were expostulating against such rude treatment. The Flicker's voice resembles a monotonous fortissimo performance on the oboe, the Cuckoo's a pianissimo response from the ocarina.*

It is not easy to determine the pitch of the Flicker's voice because of its peculiar timbre; it certainly is not a whistle, yet one can easily imitate it by whistling with due regard for the grace note. The song written out should appear thus:



though I never could promise that the interval E to G on the oboe would exactly imitate the voice of the next Flicker that we happen to hear; their voices all differ. In addition to this song the bird gives us an unmusical, rasping

* A terra-cotta instrument with a hollow, rather sweet tone, not unlike that of an organ pipe.



that sounds like an ungreased cart wheel, and he also beats a rolling tattoo like the others of his tribe.

He is a bird of character otherwise he would never have accumulated so many labels. Mr. Chapman says that there are thirty-six, but a few of the most familiar ones will show the tendency of man to poke fun at him—Wake-up, Yarrup, Piut, High-hole, Woodwall, Yellow-hammer, Yucker, Flicker, Hittock, Clape, Harry Wicket, etc. He is a revelation of complex color when he is surprised on the ground and rises, showing his underneath gold, and a joker in the fullest sense when one catches sight of him bowing and scraping to the other sex in a series of bobs up and down with tail and wings stiffly outspread, uttering the while a significant, *you-see, you-see!* Audubon testifies to the cheerful disposition of the bird, especially when in captivity, as follows: "The Golden-winged Woodpecker never suffers its naturally lively spirits to droop. It feeds well, and by way of amusement will continue to destroy as much furniture in a day as can well be mended by a different kind of workman in a week." The food of this Woodpecker, who visits the ground much oftener than is the custom of his kind, is mostly grubs, ants, worms, bird-cherries, and the fruit of the sour gum.

ORDER *MACROCHIRES*. GOATSUCKERS, SWIFTS, ETC.

Family *Caprimulgidæ*.

NIGHTHAWKS, WHIP-POOR-WILLS, ETC.

This is a family of forest-inhabiting birds distinguished by their method of perching lengthwise on a limb or branch, and their habit of capturing their food while on the wing; the expansive mouth and the surrounding long, stiff bristles (characteristic of some species) are especially adapted to catch insects. Some of the species possess remarkable vocal powers.

Whip-poor-will
Antrostomus vociferus
L. 9.75 inches
May 10th

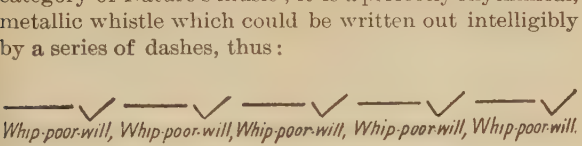
Mary Johnston in the opening sentences of *To Have and to Hold* makes this rather picturesque allusion to the Whip-poor-will: "The birds that sing all day have hushed, and the Horned Owls, the monster frogs, and that strange and ominous fowl (if fowl it be, and not, as some assert, a spirit damned) which we English call the Whip-poor-will, are yet silent."

There is something uncanny about the nocturnal bird and his strange song, particularly as he is always heard and seldom seen. When he *is* seen it is too late in the evening to get any idea of his colors. The white crescent on the neck, and the white outer tail feathers, are all that one can discern in the gathering dusk; the rest is a mixture of spotty browns. Head finely mottled with black and white; back ochre-buff finely marked with black; wings dark brown with ruddy bars; tail barred with black and mottled with buff, but the end half of the three outer feathers conspicuously white; a white band divides the throat and breast; lower parts cream-buff irregularly marked with dark sepia. The base of the bill is set with long, stiff, curving bristles, and the mouth is extremely large although the bill appears very small. The foot is a failure so far as use and appearances go, the claws are tiny, and the long middle toe has a conspicuous comb on the claw. One never sees the bird perched *crosswise* on anything; whether it be a rock, the wood-pile, a log, or a fence rail, the position is invariably the same—a squatting posture, the legs completely hidden, and the body parallel with any narrow perch, such as a rail or a stick of wood! It is evident the creature would be unable to balance itself the other way. As for its flight, that is as silent as the night, there is not the rustle of a feather. It shares with the Owl and the Bat an absolutely noiseless wing. Egg, gray-white marked with lilac and gray. There are usually two, which are deposited on the leafy ground of woods or thickets. The female is similarly marked with the male, but cream buff displaces the white.

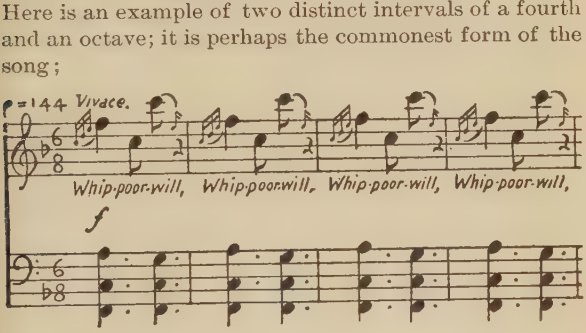
The song is weird, there is nothing like it in all the

Whip-poor-will

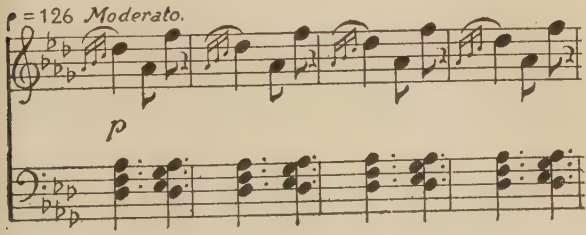
category of Nature's music; it is a perfectly rhythmical, metallic whistle which could be written out intelligibly by a series of dashes, thus:



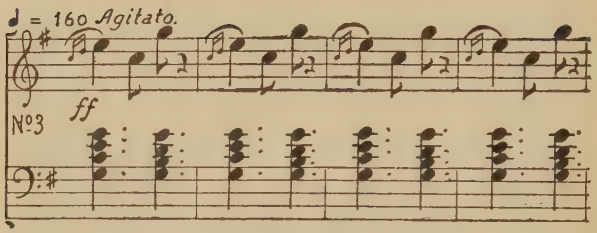
But these do not carry with them any idea of pitch, and so perfectly does the bird conform to pitch as well as rhythm, that one has no difficulty whatever in fixing the key or the position of any one of the three tones. Here is an example of two distinct intervals of a fourth and an octave; it is perhaps the commonest form of the song;



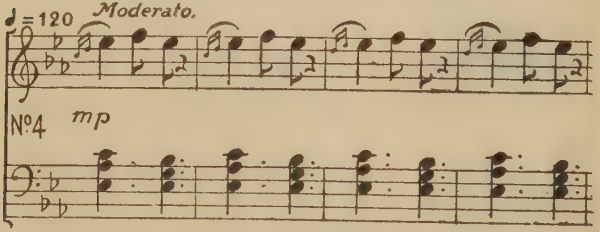
But no two birds sing exactly alike; listen and you will hear a distant bird respond in a lower key, with a lesser interval, and in slower time; the form is fairly common;



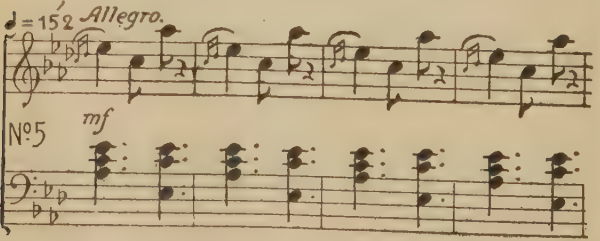
Then another individual very near at hand will consider this entirely too slow, and start in vigorously and vivaciously, thus;



That seems to be altogether too flippant a measure for the next soloist so he corrects the time and the key according to his own ideas :

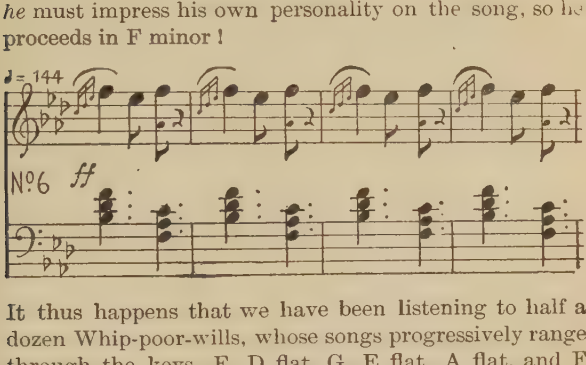


Observe that he has confined his song to an interval of only a second, and is proceeding in a very leisurely manner, when he is interrupted by some one else who attempts a compromise between extremes on an entirely different key ;



Apparently this variety in the manner of chastising "poor Will" has exhausted the patience of bird number

six and he breaks in on both the others with an emphatic and vociferous insistence on the *original* key, F, but even *he* must impress his own personality on the song, so he proceeds in F minor!



It thus happens that we have been listening to half a dozen Whip-poor-wills, whose songs progressively range through the keys, F, D flat, G, E flat, A flat, and F minor! * I confess that I have picked out from my collection of Whip-poor-will annotations these six songs in correlated keys for the purpose of showing the generally harmonious relationship of bird music. It would indeed be a rare occasion if the six occurred in the regular succession given above, but there is every chance in the world that we will hear something very similar to this the next time we listen to a number of Whip-poor-wills singing together. That depends upon our "ear for music." This bird is Nature's virtuoso in the performance of the Nocturne, and it requires but little study to discover the fact that few if any of the renderings are exactly similar. An attentive ear at close range will detect a sound like *cuh* coming from the bird's throat between each of the *whip-poor-wills*, but one must be very near to catch it. Evidently it is caused by sucking in the breath and shutting and opening the bill preparatory to the next whistles. One will also notice a very perceptible quaver on the syllable *poor*,† so I have properly indicated that by a grace note in my music.

*This is no ordinary progression; the six songs played on the piano in the order given above show at once a harmonious relationship.

†Mr. Cheney's division of this syllable into two equal parts (two sixteenth notes) does not seem to me correct, even though he

Wilson had a fair idea of the responsive character of the Whip-poor-will's singing, but of course he had no conception of the musical relationship of the keys in which the bird sang; he writes, "when two or more males meet, their *whip-poor-will* altercations become much more rapid and incessant, as if each were straining to overpower or silence the other. When near you often hear an introductory cluck between the notes. At these times they fly low, not more than a few feet from the ground, skimming about the house and before the door, alighting on the wood-pile, or settling on the roof."

The bird sings during the early hours of the evening, or all night if it is a moon-lit one, and the springtime. He does his hunting along water-courses and on the borders of the woods, his large mouth enabling him to readily catch insects as he flies. By imitating the song I have often lured one to such close quarters that the wings have almost brushed my hat. It is certainly a very common bird throughout the Pemigewasset Valley.

Nighthawk
Chordeiles virginianus
L. 10.00 inches
May 20th

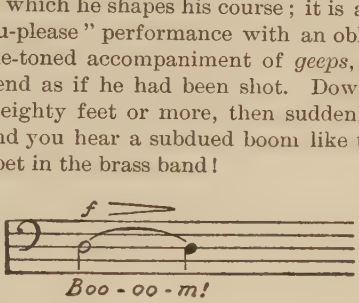
The Nighthawk is a very near relative of the Whip-poor-will, and singularly enough is often mistaken for it. But the characters and markings of the birds are distinctly different. The tone of the Nighthawk's color is a blackish sepia brown. Upper parts black, thickly marked with white and buff; wings and tail sepia; the middle of the larger wing feathers marked with a white spot, the spots forming collectively a conspicuous white wing-bar. Tail feathers marked with buff on a sepia ground, and all but the middle ones white-banded near the end; throat with a broad white band; under parts barred with black and white often tinged with buff. The female is similarly marked, but lacks the white on tail and throat, the latter is ochre-buff. Egg gray-white profusely speckled with gray-

makes two tones of it, separated by an interval of a third. One can not produce this effect by imitating the Whip-poor-will's song strictly *a tempo;* it is impossible to do anything else than *bounce* on that middle syllable.

Nighthawk

brown; it is laid on the ground, and there are not likely to be more than two; these are deposited in a stony field, or even on bare rock. There is no pretense at nest-building.

The Nighthawk has no song; but that one bass note which he produces with his wings proclaims him the bass trumpet player of Nature's orchestra. He is a sky-scraper and an erratic wanderer on the wing. He seems to go no way in particular, and to have no place in particular for which he shapes his course; it is a decidedly "go-as-you-please" performance with an obligato rasping, double-toned accompaniment of *geeps*, and it will presently end as if he had been shot. Down he drops vertically eighty feet or more, then suddenly recovers himself, and you hear a subdued boom like that of the bass trumpet in the brass band!



It is he, and not, as you may at first suppose, "the bull-frog in the pool." The remarkable tone is produced by the rush of air through the bird's primaries! Wilson makes a mistake about the cause of the noise which is a bit amusing; he says, "he suddenly precipitates himself head foremost and with great rapidity down sixty or eighty feet, wheeling up again as suddenly, at which instant is heard a loud booming sound very much resembling that produced by blowing strongly into the bunghole of an empty hogshead, and which is doubtless produced by the sudden expansion of his capacious mouth while he passes through the air." Alas! alas! had Wilson only understood the principles of diaphonics, he would have known that the mouth of the bird must necessarily expand to the size of the "empty hogshead" to support his theory!

Family *Micropodidæ*. SWIFTS.

Of seventy-five known species of Swifts only four are found in North America. They feed on the wing exclusively, and the similarity of their habits to those of Swallows has given rise to some confusion between the two families.

Chimney Swift
Chætura pelagica
L. 5.40 inches
May 15th

The Chimney Swift is *not* a Swallow, although he has been confused with the latter species so long and so thoroughly that he is better known by the name Chimney Swallow.* But the two types of birds are structurally very different, however similar general appearances and feeding habits seem to be. In color this little Swift is a delightful smoky black graded to a dull gray on the throat; he may be readily identified by the *elongated shafts* or spiked tips of the tail feathers which he uses as a fan-shaped brace when he clings to the chimney wall, and by the deeply set eye and overhanging eyebrow. The slender wings, with their long primaries and powerful muscles, the broad chest, and the small body, all enable him to prolong his flight for an almost indefinite length of time. The wings are used rapidly and not at all with the steady measured strokes common to some of the Swallows. The nest is a peculiar hollowed bracket, built of dried twigs well cemented together with the gluey saliva of the bird, and fastened to the rough wall of the chimney somewhere from five to ten feet from the top. This remarkable structure is anything but secure, and when the lusty young birds become restless it has an extremely awkward way of dumping the whole family down in the fireplace; then the rasping, ear-splitting chirps of the youngsters are only comparable to the filing of a saw—yes, twenty saws! There are usually from four to six pure white eggs in a nest, and presumably most farmers' wives wish they would never hatch out. The bird is common throughout eastern North America.

* He was called so by Alexander Wilson.

Chimney Swifts

Of course the Chimney Swift has no song, but he has a very tolerable idea of keeping time with his fellows in a series of penetrating, rhythmic chirps (away up on the highest C of the piano) during an "all hands around" game of "tag" in ever narrowing circles about some neglected chimney of the old farmhouse. I will not say that the birds adhere to the metre in the following verses (!), but they come extremely near it, and, barring a few breaks, devote themselves entirely to the joys of alternating and consonant sound like that which charms your ears when two boilermakers fall to hammering on the rivets!

Chip chip chip chip, chip chip chip chip,
Per-ché per-ché per-ché per-ché, per-ché per-ché per-ché,
Chippy chippy chippy chippy, chippy chippy chippy chippy,
Chip chip chip chip, chip chip chip!

The Swifts feed entirely while on the wing, and one seldom sees a bird perch anywhere except on or about the chimney. Naturally, therefore, one wonders what they did before the chimney "arrived" in America. The answer is simple enough. The case is one of adaptation to newer conditions; the Swift prefers the chimney to the hollow in the rotten tree, and that is partly because, nowadays, the hollow in the tree is not as common as the chimney. Mr. Chapman says the structural relations of the Chimney Swift "are with the Hummingbirds and not with the Passerine Swallows." Perhaps that is the reason why there is such a loud hum to their wings within the chimney!

Family *Trochilidæ*. HUMMINGBIRDS.

Hummingbirds belong exclusively in the New World. South America is their paradise, and the regions of the Andes are their favorite resort. Of some five hundred species which are now known, but seventeen are found in the United States, and only one species occurs east of

the Mississippi. This is our own little Ruby-throat, and he is comparatively small beside the largest and most magnificent species recently discovered in Arizona, named *Eugenes fulgens*. This splendid "hummer" is about six inches long! The smaller species fly so swiftly that their wings are lost in a "humming" mist encircling the little body; but the wings of the larger species move with sufficient moderation for the eye to detect the beats. The remarkable gorget (the name of the Hummingbird's ruby collar) is, under a magnifying glass, a resplendent blaze of color.

Ruby-throated Hummingbird
Trochilus colubris
L. 3.70 inches
May 15th

This is the only Hummingbird of eastern North America. His range is from Labrador to Florida. So charming a little creature, devoid of music, needs none of it, because he is a veritable symphony in color, a harmony of metallic greens and browns and ruby-red. The upper parts are shining green modified by brownish shadows; wings and tail brown with purplish side-lights; throat a lustrous ruby-red margined with white-gray at the breast; under parts dusky gray. The male in autumn almost lacks the ruby-red; in the female it is altogether wanting, and the tail has a more rounded contour. Nest, a curious little structure built of plant down and fibres, covered on the outside with lichens which closely match in colors the limb on which it is fastened. It has, in fact, all the appearance of a knot belonging to the branch. The two pure white eggs are about half an inch long. The mother-bird feeds her young by the process of regurgitation; the food is largely made up of tiny insects.

The only note which the Hummingbird possesses is a tiny squeak without definite tone. He utters the sound frequently while he is at work probing the flowers in the garden, as though he were afraid of capture. It is plainly a note of caution, meaning, possibly, "Look out now; don't attempt to catch me by the tail while my head is buried in this morning-glory!" The bird is so remarkably fearless, though, that I doubt very much

Humming Bird

whether he utters his note for any other reason than to "keep himself company." He will frequently feed from a bunch of flowers held in the hand, and occasionally flies in the house in search of sweets. The reason he holds an apparently secure position among a host of birds whose size and strength are more than tenfold as great as his own, is because he is so absolutely fearless and pugnacious. He is a great fighter, and holds his own by the point of his bill. Ralph Hoffmann, in *Bird Portraits*, says: "Though the birds are very irritable and pugnacious when wild, frequently attacking each other with shrill squeaks, yet in captivity they prove very gentle and almost affectionate."

ORDER *PASSERES*. PERCHING BIRDS.

Family *Tyrannidæ*. FLYCATCHERS.

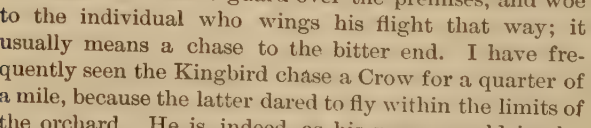
The Flycatchers are distinguished for their habit of catching insects on the wing; they leave their perch and snap up the passing insect with unerring aim. All are poor song birds except the Wood Pewee, who has exceptional ability in tone expression. There are over thirty species in the United States, and less than a third of these are common in our part of the country.

Kingbird
Tyrannus tyrannus
L. 8.50 inches
May 15th

The Kingbird is another pugnacious character. Apparently he spends most of his time in chasing insects or in driving other birds off his territory. He has a good deal of style for a rather plain bird, which is evidenced in his crested black head and beautifully toned gray-white breast, as well as his dignified if not defiant, straight carriage. The upper parts are slate gray; smoky black on head and shoulders; tail black, *tip margined white*, a conspicuous mark for identification; an orange-red crown-patch is hidden by the dark feathers of the head except when the whole crest is erect; under parts dull white tinged with gray on the breast. Female similar. Nest, compact and circular, woven of grass, moss, weed-stalks, and rootlets, lined with plant-down and similar soft material. It is generally situated

at the fork of a branch and near its extremity, from fifteen to twenty-five feet above ground. Egg, white with sepia brown specks. The range of the bird is pretty nearly throughout North America, from New Brunswick and Manitoba southward.

The Kingbird has no song, but he has some conversational ability of a limited though stridulous character. It is not difficult to place the tone of his voice on the musical staff, although there is not a bit of music in that tone. His remarks as he stands on some high perch commanding a wide outlook are a trifle monotonous: *Ker-rip, ker-rip, quirp,* each with a rising inflection, and then *Ker-r-r-r, ker-r-r-r, ker-r-r-r,* in a decidedly burred or double-tone note, which may be imitated by humming and whistling simultaneously. The music should appear about like the following, though it should be remembered a single tone with a shifting pitch, and that, too, not a musical tone, is all one hears:



An old apple-tree is a favorite resort of the Kingbird, and in this the nest is frequently built within plain sight. The male bird stands guard over the premises, and woe to the individual who wings his flight that way; it usually means a chase to the bitter end. I have frequently seen the Kingbird chase a Crow for a quarter of a mile, because the latter dared to fly within the limits of the orchard. He is, indeed, as his name would imply, the Tyrant Flycatcher, though he is not a tyrannical husband; for it is as plain as day he treats his mate with the utmost consideration, guarding the nest with assiduous care while she is away in search of food. I have never seen him assist in building a nest, or in the domestic cares involved with the brooding period, but he is afterward very attentive in feeding the young. Olive Thorne Miller writes: "While his mate is sitting—and possibly at other times—he indulges in a soft and very

Phœbe

pleasing song, which I have heard only in the very early morning." But my own experience is contrary to that. I have never heard such a song, but rather have noticed that the birds were particularly aggressive and saucy in the morning, as though they had waked up in a bad humor and wanted to rout everyone else out. The notes about six A.M. may be rightly interpreted thus: *Wake-up, wake-up, lazy, cur, cur-r-r-r, cur-r-r-r!*

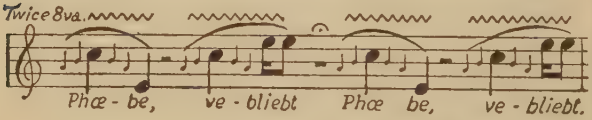
The Kingbird catches his food on the wing. Watch him carefully as he sits on his commanding perch and you will see he takes short excursions in mid-air after some insect which has ventured too near. Notice him again if a Hawk should pass a hundred feet overhead, and you will see him dart upward after the enemy, dash recklessly at him with threatening bill, and in other ways make the big bird's life burdensome as he flies for a distance of half a mile more or less.

Phœbe
Sayornis phœbe
L. 6.90 inches
April 1st

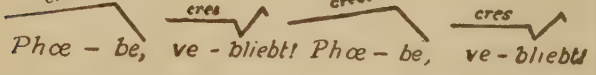
Phœbe is one of those peaceful, confiding characters, which appropriates one corner of the roof of the wash-shed or the side porch without so much as saying "by your leave." The consequences are not such as a good housekeeper would approve; for Phœbe transports a considerable amount of mud from the borders of the neighboring stream with which to build her nest, and then after it is built she fails to keep it clean; it usually swarms with innumerable parasites. Both male and female birds are marked alike. Upper parts sooty brown with a greenish cast; crown dark or sepia brown; wings and tail also distinctly darker; outer half of outer tail feather dull white; under parts dull white with a yellowish tone; bill black. Nest, mostly a composition of mosses and mud, lined with grass and long hairs, bulky, and lodged at some roof or bridge (underneath) corner on a rafter. Egg white, sometimes with a few cinnamon brown specks. The bird is common throughout eastern North America, from Newfoundland southward.

Phœbe sits on the piazza rail or the rustic gate and contentedly sings his monotonous refrain, *Phœbe ve-bliebt!*

*Phœbe ve-bliebt!** the second utterance, with its chopped-off syllable, sounding like a bit of mongrel German! The whole song is exactly what Mr. Chapman says it is—"a hopelessly tuneless performance." Then he adds a touch of sentiment, and says further: "but who that has heard it in early spring when the 'pussy-willow' seems almost to purr with soft blossoms, will not affirm that Phœbe touches chords dumb to more ambitious songsters!" It is almost useless to place this "tuneless" song on the musical staff, yet the positions of the notes will aid one to recognize the inflections of the voice; here is the song:



The tones are all burred, and all slurred, so the syllables are all lost in "swishing" whistles. Perhaps, also, the tracing of these lines with a pencil may help one to catch the rhythm:



Wood Pewee
Contopus virens
L. 6.50 inches
May 15th

Among all the singers of the woodland the Wood Pewee is the sentimentalist. His short song of three or four notes appeals to us wholly by reason of its apparently emotional nature. It is to be classed along with Stephen Foster's Old Folks at Home, or the famous old Irish melody, The Last Rose of Summer. The little fellow sings along with the Hermit Thrush, in the region of the White Mountains, but how absolutely different is the burden of his song! There is a touch of sadness to the few notes of the Wood Pewee, there are joy and gladness in the soaring lyric of the Hermit Thrush. Nor is this little woodland Flycatcher attractive in appearance; he is the plainest of birds, as well as the plainest of

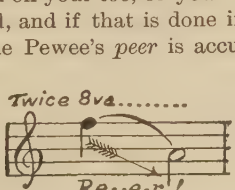
*My friend, Professor Patton of Dartmouth College, called my attention to a similar construction of the song.

Chebec
(above)

Wood Pewee
(below)

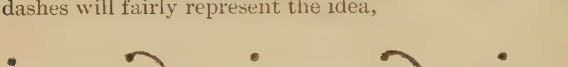
singers. Upper parts smoky olive; wings and tail sepia brown; shoulder feathers of the wings tipped with dull white, forming two more or less distinct wing-bars; under parts white faintly tinged with yellow and graded to light olive gray on the breast and sides; upper mandible black, the lower light horn-color. The sexes are alike. Nest substantially built of fine grasses woven with plant fibre and moss, the outside covered with lichens; it is usually on a horizontal limb fifteen to forty feet from the ground. Egg white and marked with a circle of brown specks about the larger end.

Mr. Chapman says, after complimenting the singer: "All day long the Pewee sings, even when the heat of summer silences more vigorous birds and the midday sun sends light-shafts to the ferns, the clear, sympathetic notes of the retired songster come from the green canopy overhead, in perfect harmony with the peace and stillness of the hour." There it is, as plain as can be—pure sentiment! Mr. Chapman strikes the keynote of the Pewee's song; whether at "matins" or "vespers" it is always the same, slow, peaceful, restful, and thoroughly musical. There is none of the nervous haste of the Robin, none of the clatter of the Flicker, and all of the sweetness of the Peabody-bird. *Pee-a-wee* he sings, and then after an *unreasonably long pause*, he adds, *peer!* It is difficult to imagine how anyone with a good ear for sound (I will not say music) can possibly miss the character of the song, for the very simple reason that it is so obviously easy to catch it. Whistle *w-h-i-e-u* with the familiar run down the musical scale, just as though some one stepped on your toe, or you were greatly surprised or shocked, and if that is done in *the laziest possible manner*, the Pewee's *peer* is accurately imitated!

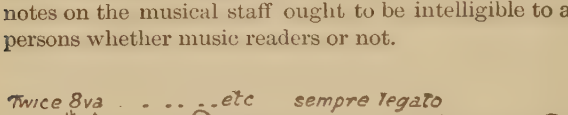


It is no *presto* performance, it must be decidedly *largo*, and when the lowest tone of the scale is reached it must

be sustained for at least a second. Then, for the better part of the bird's song, his *pee-a-wee*, all that is required is to whistle in a very slow, dragging fashion, first a clear high note, then one exactly a fourth below that, and finally one a minor third above the one last mentioned. That is literally all there is to the song; the variations are too unimportant to mention. Dots and dashes will fairly represent the idea,

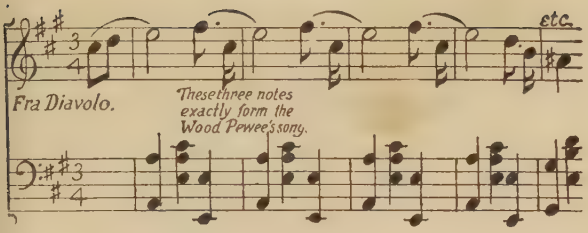


but it seems as though the very plain position of the notes on the musical staff ought to be intelligible to all persons whether music readers or not.

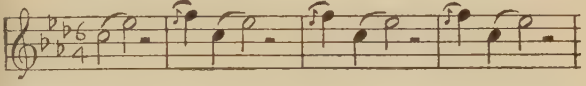


The grace note attached to the note representing the first syllable is an extremely important one; a sharp ear will readily detect an ascending tone to *pee*, and in some cases it will be discovered that the little introductory tone is almost independent of the next one and justly deserves to be counted the first of *four* tones in the song.* It is impossible, also, for me to put too much stress on what a musician would call its legato character; there is no bird which compares with the Wood Pewee in sheer laziness of style; he does not attempt to "hit" a note squarely, he reaches for it with all the sentimentality (but none of the vulgarity) of the inexperienced and uncultivated singer, capturing us in spite of his error by the perfect sweetness of his voice. How inimitably dignified and graceful is his rendering of that familiar but rather flippant aria in Auber's Fra Diavolo:

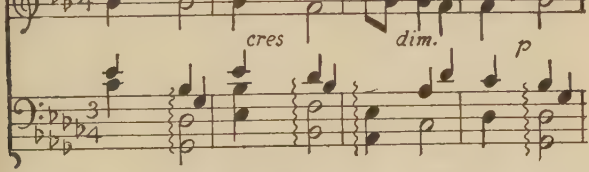
*This more complete form of the Pewee's song belongs to the nuptial season.



He does not fancy this juggling with so good a motive, he takes it more seriously, and sings with feeling:



There is an ineffable grace, almost a religious solemnity to the little melody when it is sung that way! Mr. Henry Oldes calls attention to this character of the Wood Pewee's song, and so do many well-known writers; but Mr. Cheney does best of all, for he makes a hymn of the plaintive call, which I have taken the liberty of harmonizing, thus:



Then Mr. Cheney significantly adds: "You see how much there is in that little, and how much of interest can be said that has never been said." *A propos* of the serious nature of the song, Dr. Elliot Cowes writes: "Wherever it may fix its home, whether in the seclusion of sylvan retreats or in the vicinity of man's abode, its

presence is soon made known by its oft-repeated melancholy notes seeming to speak some settled sorrow that time can never heal. The sighing of the pines is not more expressive of mournful fancies than the sobbing of the little sombre-colored bird, flitting apparently inconsolable through their shades." That is carrying things to extremes, I should say, and smacks not a little of maudlin sentiment. However, every one to his own mind, and if one feels that way about a bird singing in *largo* time, the interpretation is presumably correct, for at most the music is a song without words. A bright little poem from the pen of J. T. Trowbridge gives us an entirely different impression of the bird's character, so there is no doubt but that pure sentiment is at the bottom of the whole matter.

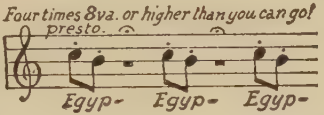
The Wood Pewee is a common resident of the orchard, and often of the elm or maple that shades the village street; in spring and early summer he spends most of the time in the woods, but when the young have flown he returns to "town" or at least to some highway that leads to it. Like all others of his tribe he is famous for his dexterity in catching insects on the wing.

Chebec. Least Flycatcher
Empidonax minimus
L. 5.40 inches
May 1st

The little Chebec has none of the music of the Wood Pewee. His is a toneless call of two short syllables which is the origin of his common name. In appearance, too, he is very ordinary. Upper parts olive brown; wings and tail sepia brown, the wing coverts tipped with buffish drab forming two distinct wing-bars on each wing; under parts dull white, grayish on the breast, and generally yellowish below; the lower mandible brown. Male and female are marked alike. This is the smallest of the Flycatchers. Nest, of rootlets, plant-fibre, and plant-down interwoven with long hairs, usually lodged in a Y branch six to fifteen feet above ground. Egg pure white. The bird is common through the Eastern States, but breeds only from Pennsylvania northward to Quebec.

There is no bird more easily identified than the Least Flycatcher. His call note is unique; it is a perfectly

self-evident *chebec*, squeaky, stridulent, and rapid, with a "g" tone. Pronounce the word *Egypt* (in a stage whisper) as rapidly as possible, but be *sure* to drop the final "t" and you have the call note.*



Only once in a while the little bird enlarges his song-motive, and then it is while he is on the wing under the influence of some unusual excitement one hears, *Egyp, Egyp, tremble-emble! Egyp, tremble-emble!* Whether that means a fateful warning of invasion to the ancient country or not, it is difficult to say. At any rate it is the bird's love song, no matter what words we set to the music, and of the latter,—well, there is none, so comment is unnecessary.

The little fellow is also easily identified by his drooping, bobbing tail which jerks with every *Egyp* he utters. He is fond of the orchard and the shade trees, and thence rather than from the borders of the woods comes his familiar voice.

Family *Corvidæ*. JAYS, CROWS, ETC.

This is a family of very intelligent birds, of large size somewhat predatory habits, and omnivorous tastes. Most of the birds are resident throughout the year. They possess some vocal ability, but are generally considered unmusical.

Blue Jay
Cyanocitta cristata
L. 11.60 inches
All the year

This splendid fellow is the rascal of the bird community, the bully and tease of all creatures smaller than himself, and, so far as actions are concerned, "the clown of the circus." So familiar a character as the Blue Jay needs no description, yet his markings are unique

* It has also been written *cadet* and *sewick*, but neither of these is very representative.

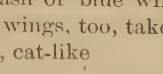
and deserve "special mention." His blue is of the ultramarine order diluted with white; that color distinguishes his upper parts; crest conspicuous and a deeper blue; a black band crosses the breast and continues upward on the sides of the neck joining on the back of the head; under parts subdued, gray-white, whiter on the throat above the black band; forehead black; wings and tail beautifully barred with black and white, the intermediate light ultramarine blue grading to a cold steely tone; tail feathers broadly tipped with white—all except the middle pair. Female similarly marked. Nest, of rootlets and twigs compactly interwoven, the finer ones serving as a lining; the latter is never composed of soft material. Egg, pale olive brown, or pale olive green, plentifully sprinkled with cinnamon brown.

The Blue Jay is also a robber. He not infrequently attacks other birds engaged in nest-building, drives them off, and finishes the job to his own liking. The following lines, taken from the Chicago *Tribune,* contain more truth than poetry:

"With twigs and strings and other things
The Robin builded it strong,
And as he plaited them into shape
He carolled a cheerful song.

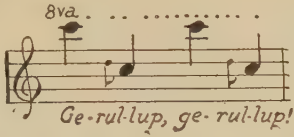
"'Why so busy?' the Jay Bird asked.
'What are you doing, pray?'
'I suppose,' said the Robin, 'I'm building a nest
For you—you blooming Jay!'"

The advent of a horde of Blue Jays, about the middle of July, in the vicinity of my studio in Campton, means a general dispersion of all the song birds for the time being. There is at once a rumpus in the old orchard, and a continual flash of blue wings in the sunlight; many little brown wings, too, take flight to return no more. A squalling, cat-like

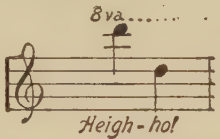


Blue Jay

fills the air, and occasionally a clear, bell-like, three syllabled note catches the ear, which is very musical, and sounds like this:



Again, a perfectly clear whistled but metallic-toned octave strikes the ear, thus:



On the whole, in spite of the confusion, and the harsh, ringing *jay, jay* tones, which remind us of the bagpipe whistle of the children's toy balloon, there is a decidedly musical element in the Blue Jay's voice. He gives us a perfect octave, and, perfect or imperfect, that is a great deal more than the Bluebird can do. He is at once a ventriloquist and a mimic, for he will readily copy any tone he hears which tickles his fancy, whether it be a squeaking cart wheel or the note of a thrush; but he attempts nothing which we could call a song.

Ralph Hoffmann gives us an excellent sketch of the Blue Jay's character in his *Bird Portraits:* "The Jay in spring is undoubtedly a reprobate. He cannot resist the temptation to sneak through the trees and bushes, and when he finds a nest of eggs temporarily left by its owner, to thrust his sharp bill through the shells; even young birds are devoured. In the autumn, however, he is a hearty, open fellow, noisy, and intent on acorns and chestnuts. The woods ring with his loud screams as he travels through them with his companions. It is amusing at this season to observe them obtaining chestnuts, a favorite food. They drive their powerful bills into a nut, wrench it out of the burr, and then fly off with it to a convenient limb and hammer it open."

Canada Jay
Whisky Jack
Perisoreus canadensis
L. 12.00 inches
All the year

Wilson says of this bird: "Were I to adopt the theoretical reasoning of a celebrated French naturalist, I might pronounce this bird a debased descendant from the common Blue Jay of the United States." But he probably knew, if he did that, his powers of discrimination would be open to criticism. There is scarcely a mark of similarity between the two species, except as they are ornithologically considered. The Canada Jay is costumed in Quaker-gray, dull-white, and black. Back of the head sooty black; back gray; throat and sides of the neck dull white; forehead white; wings and tail gray, with many of the feathers white-tipped; under parts warm gray. Female similar. The plumage is thick and unkempt-looking, resembling, in a measure, that of the Chickadee. Nest of coarse twigs and bark-fibre, generally lodged well up in a spruce or some other coniferous tree. Egg white, irregularly speckled with madder brown. The bird is decidedly boreal, and is found only from northern New England and New York to northern Minnesota, which are the southern limits of its range.

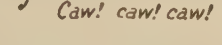
The notes of the Canada Jay are very similar to those of the Blue Jay; most of them are harsh or discordant, and many have a peculiar wailing character which distinctly separates them from the rather sprightly tones of the handsomer cousin. My only experience with these birds has been on the summits of the White Mountains, where they are far from uncommon. They are naturally the inhabitants of the great coniferous forests of the North, and are frequent visitors of the lumber camps, where by their sociable habits and fearlessness they become very friendly with the lumbermen, often feeding from their hands. On the summit of Mt. Osceola, in Waterville, N. H., on more than one occasion the Canada Jay has taken pieces of bread from my fingers. I have never taken any memoranda of his notes, as they were too unmusical to deserve attention; besides, he is a bird easily identified by his environment.

Canada Jay

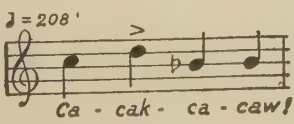
Crow
Corvus americanus
L. 19.25 inches
All the year

This familiar American character has become a standard by which we calculate many conditions, such as "as black as a crow," "as the crow flies," "as sharp as a crow," etc. No description of the bird's appearance is really necessary, but it may as well be said at once, that in the fullest sense of the word *he is not black!* The entire plumage is characterized by an iridescent steel-blue or violet. This is particularly noticeable on the neck, shoulders, wings, and tail. The feathers of the under parts are less metallic and lustrous than those of the upper parts. The nest is a clumsy affair, built of twigs, sticks, bark, grass, etc.; it is generally in the crotch of a bough fully thirty feet above ground. Egg a beautiful dull green-blue thickly speckled with brown; sometimes it is blue-white, or pale blue with sparse markings. The bird is distributed from the northern United States south to Florida, where it is represented by the Florida Crow.

There is no music in the Crow's *caw* nor any in the rest of his various calls, but he is a bird with a distinct language, which one may study with profitable results. His harsh mutterings are just desultory talk, his *cr-r-r-r-r-uck* bespeaks contentment, his sharp and incisive *caw, caw, caw,* means "attention!"



and his three fortissimo tones, embracing a distinct major third, mean, I do not know what, but I sometimes think, "Come *this* way quick!"



He takes a conspicuous stand at the top of some dead limb when he sends out this emphatic summons, and it certainly is vehement enough for one to imply that business of a strictly important and urgent nature is pending.

The Crow has his enemies, plenty of them, and few if any friends. Still, when he is tamed, he is very loyal to his friend and protector, recognizing his voice and answering his call at once. In autumn great numbers of Crows congregate at the seacoast, where the supply of sea food offers a more promising outlook for the winter.

Family *Icteridæ*.

BOBOLINK, BLACKBIRDS, ORIOLES, ETC.

This family represents a class of birds which, excepting the Orioles, are gregarious. The bills of all the species are comparatively sharp and adapted to their varied diet, which consists of insects, fruit, seeds, etc. The notes of all the species are distinguished by a metallic quality, least noticeable in those of the Oriole, but emphasized and rendered harsh in those of the Blackbirds.

Bobolink
Reedbird
Dolichonyx oryzivorus
L. 7.25 inches
May 12th

Bobolink is a "bird of parts." He is no ordinary fellow; he is the soloist of comic opera in the fields, the Reedbird on toast of the epicure, the Robert of Lincoln of the poet, and the Ricebird or Ortolan of his enemy the rice grower of South Carolina! In appearance he and his mate are utterly different; but before the summer is past he changes his costume and doffs the sober colors of the female; not content with all this variety, he changes his voice after the nuptial season, and not another liquid, bubbling note do we get from him when once he starts in with his monotonous, metallic *chink*. In spring his colors are patchy. Head black, nape of the neck corn-yellow; tail and wings black, the tail feathers with pointed tips; middle of back patched or streaked with cream-buff; lower back and upper tail coverts white; a patch of white also on the shoulders; the bill, face, and under parts black.

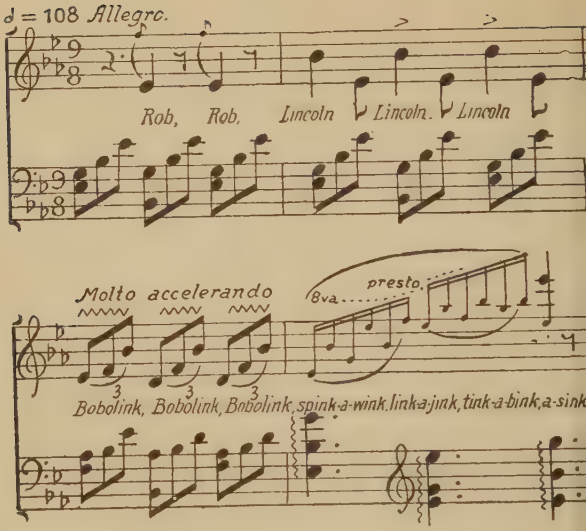
Crow

Female marked and streaked like a sparrow; brown streaked with buff above; head dark sepia with a central line of green-buff; lower parts pale yellowish buff graded to buff-white. Nest in the tall grass on the ground, woven of dried grasses. The birds are very cautious in approaching and leaving the nest, always walking to and from it a little distance, after alighting or before taking wing. Egg gray-white of a bluish cast, speckled with dark brown. The bird is unevenly distributed throughout the eastern United States, and extends west to Utah and Montana. It migrates through Florida and across the West Indies to South America, usually via Cuba and Yucatan.

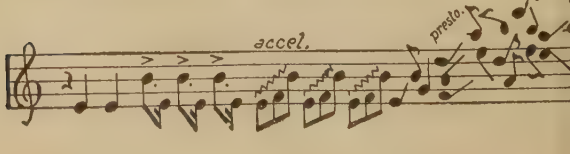
The Bobolink is indeed a great singer, but the latter part of his song is a species of musical fireworks. He begins bravely enough with a number of well-sustained tones, but presently he accelerates his time, loses track of his motive, and goes to pieces in a burst of musical scintillations. It is a mad, reckless song-fantasia, an outbreak of pent-up, irrepressible glee. The difficulty in either describing or putting upon paper such music is insurmountable. One can follow the singer through the first few whistled bars, and then, figuratively speaking, he lets down the bars and stampedes. I have never been able to "sort out" the tones as they passed at this break-neck speed. Others who desired to record the song have found the thing impracticable. Mr. Cheney writes: "We must wait for some interpreter with the sound-catching skill of a Blind Tom and the phonograph combined, before we may hope to fasten the kinks and twists of this live music-box."

There is, however, not a small part of the Bobolink's music which *is* comprehensible. The first part of the song usually carries with it a suggestion of the waltz, in colerably clear whistles set to three-four or nine-eight time. The following annotation, a good illustration of this ryhthm, I obtained at a spot called "Paradise," near Smith's College, Northampton, Mass.*:

* All of this Bobolink music is, of necessity, written two octaves lower than the bird sings.

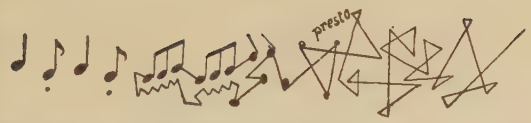


I have chosen to render the *latter* part of this son (which is given in rapid, *twanging*, *wiry* tones) in series of comprehensible intervals, not unlike thos which Chopin introduces in his fantasias. The bird sim ply suggested that kind of a "run" to me, that was al he did not in the least conform to pitch or interval. *B the character of the music was the same;* and if ever body understands that a fantasia is a musical compos tion freed from strict form and allowed to follow th lead of fancy, they will see at once that the last part the Bobolink's song unquestionably conforms to th style. But if one prefers not to interpret bird musi but to take it from Nature exactly as it comes, this that follows may prove more acceptable:

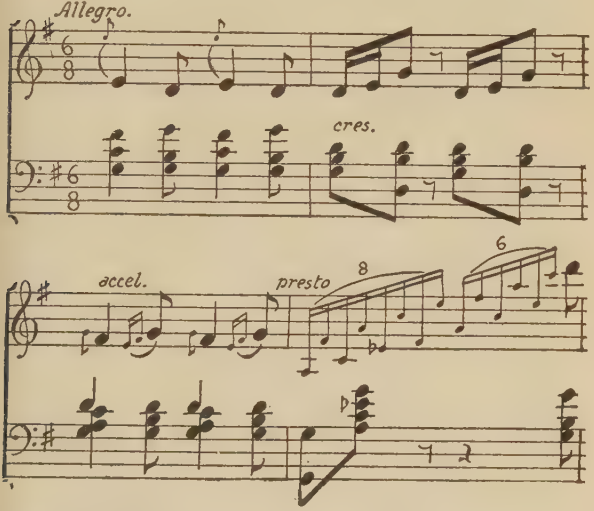


Bobolink

or this:



Then, here is still another song taken from a bird which sang in a meadow not far from the campus of Dartmouth College, Hanover, N. H.:



The poet Bryant expressed a few of the syllables of the song with verbal accuracy. His

> "Bob-o'-link, Bob-o'-link,
> Spink, spank, spink,"

gives a good representation of the three-syllabled tones, and also a fair imitation of the wiry quality of the tones.

The Bobolink is a distinctive meadow character. He rises from the grass with a great deal more wing-action than the shortness of his flight would seem to demand. It is evident by the constant flipping of the wings that flying is an *effort* with him, where it is no effort at all

with the Barn Swallow. Perhaps his constant foraging in the meadow grass has put him out of practice on the wing. However that may be, it is a significant fact that he takes the shortest sea route to South America, and the evidence goes to show he is unable to sustain himself in a very long flight. He arrives in New York from the south about the first of May, and proceeds up the Hudson and Connecticut River Valleys to Canada. Although he is a very common bird in the vicinity of Hanover, N. H., he is extremely uncommon in the Valley of the Pemigewasset, at Plymouth, scarcely twenty-seven miles due east; but again in Belknap County, the same distance southeast, he is abundant.

All sentiment aside, it is impossible to state the true value of the Bobolink relatively with agriculture. Mr. Beal* says that he destroys $2,000,000 worth of rice in a year, and Mr. Chapman says $3,000,000. Either way we take it, the outlook is bad for the rice grower of the South. In the North the bird subsists upon countless varieties of insects and the seeds of useless plants, but it would be difficult to prove that this beneficent work has a money value which mounts up into the millions! I quote from Mr. Beal the state of the case in the South: "Were the rice fields at a distance from the line of migration, . . . they would probably never be molested; but lying as they do directly in its path, they form a recruiting ground, where the birds can rest and accumulate flesh and strength for the long sea flight which awaits them in their course to South America." Then in regard to the two million dollars, Mr. Beal adds: "If these figures are any approximation to the truth, the ordinary farmer will not believe that the Bobolink benefits the northern half of the country nearly as much as it damages the southern half. . . . But even if the bird really does more harm than good, what is the remedy? For years the rice planters have been employing men and boys to shoot the birds and drive them away from the fields, but in spite of the millions slain every

*See *Farmers' Bulletin No. 54*, U. S. Dept. of Agriculture, entitled, "Some Common Birds," by F. E. L. Beal, B. S.

year their numbers do not decrease." It is a fact that the clearing of forests in the North and the introduction of rice culture in the South have afforded a greater available breeding area for the Bobolink, and it has accordingly increased in numbers.

Cowbird
Molothrus ater
L. 7.90 inches
April 1st

This disreputable character, parasitic in habit and degenerate in all moral instinct, gets its name through its fondness for bovine society, and its fame from its abominable habit of laying its egg in another bird's nest. It is not handsome, either. A hood of dark snuff-brown extends from the crown to the neck and breast; the general color otherwise is an iridescent black; the tail is somewhat square at the tip. Female a grayish brown, lighter beneath, and graded to whitish gray on the throat. Egg, white marked with evenly distributed specks of cinnamon or sepia brown, deposited in the nest of another bird, generally that of a Sparrow, Vireo, and Warbler. The bird is rare in the mountainous parts of northern New England, but is distributed from this point generally west and south. It is a walker, not a hopper.

The Cowbird has no song; his nearest approach to music is a sort of guttural murmuring which, according to Mr. Chapman, is produced with an apparently "nauseous effort." But these guttural chirps are an index to the character of the bird; they are a harsh, metallic *gluck, zee-zee* without rhythm or sentiment. Why should they have either? The bird has no song—no mate to call. He is a polygamist, a bird of no principles, a "low-down" character. He usually goes with a flock of other evil spirits just like himself, and their favorite resort is the cow-yard or the pasture where the cattle graze. Very probably they have one good redeeming quality: they keep myriads of insects in check which otherwise would worry the life out of the cows; but no one seems to be positively sure about that. It is certain, however, that the *young* Cowbirds do no end of harm to the bird families upon which they are foisted, for there is many a dainty Warbler or Vireo pushed out of the

nest or starved to death by reason of the selfishness of the loutish foster-brother.

Red-winged Blackbird
Agelaius phœniceus
L. 9.50 inches
April 1st

A beautiful slim and smooth black bird with scarlet epaulets sways unsteadily on the supple stem of a cattail on the margin of the pond, and sends out a strange reed-like note which, according to Thoreau's way of thinking, meant *Conk-a-ree!* This is the Red-winged Blackbird, whose personality and coloring are as strong as his song is peculiar. The bird is lustrous black with the exception of the lesser wing coverts (i. e., the shoulders) which are deep scarlet; this color is bordered on the lower side by buff or a deep cream tint. The female lacks the red color or it is modified to a deep crimson tinge; the black is also modified by the rusty margins to the feathers, and the throat by a rusty orange tinge; under parts streaked with gray or white. The nest is placed in a low bush or among reeds, and is woven of coarse grasses, weeds, and plant fibres, lined with finer material of the same nature. Egg, pale blue, spotted and zigzag-streaked with brown. The bird is common throughout the eastern part of the country.

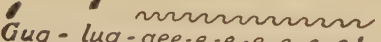
The Red-winged Blackbird is one of the easiest birds to identify by his song, although that has the remarkable quality of a mixed tone difficult to describe or to place accurately on the musical staff. The song is made up of three syllables, the first of which is obscure or difficult to catch unless one is not very far away from the bird. Various writers interpret the syllables differently. Emerson's opinion is that

"The Redwing flutes his 'O ka lee.'"

Mr. Chapman makes it "Kong-quer-ree"; William Hamilton Gibson, "Gl-oogl-eee"; and yet another writer, "Gug-lug-geee." On two points all seem to agree, i. e., the three syllables, and a repetition of the vowel *e* in the last syllable. So it is an apparently simple matter to express the rhythm by signs, bearing in mind that the

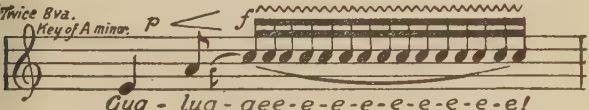
Red-winged Blackbird

doubling up of the vowel *e* must mean a sustained tone, if this is so, then the cabalistic signs should appear thus:



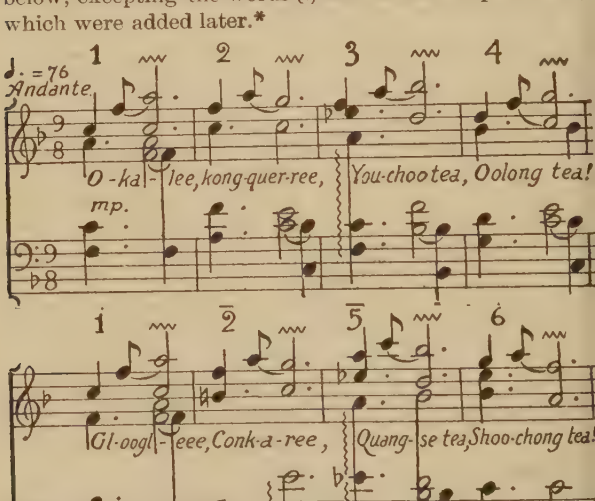
By simply tapping and moving a pencil on a table this way one can get the rhythm perfectly. If one should try to whistle these three tones the difficulty would be great but not insurmountable. It is only necessary to whistle and say simultaneously, *Gug-lug*, with the second syllable about a third higher than the first, and then follow that with a long-drawn *geee* in a tone midway between the other two, but whistled and hummed simultaneously. If anyone can do that, the sound produced will be a tolerable imitation of the Red-winged Blackbird's song! The advice seems not unlike the recipe in the impractical Cook Book: "Take a quart of cream," which was echoed by the indignant housewife, who despairingly added, "As if we kept a cow in the back yard!" Possibly the reader may also feel inclined to comment indignantly, "As if I were a bird!" But one can easily afford to pass the experiment if the general principle of the rhythm is understood, for the Red-winged Blackbird never fails to stick close to that.

The written music appears almost as plain, although there is never that accuracy of pitch in the Red-wing's voice which would enable me to say he uses a perfect third, or fourth, or sixth, as the case may be.



To be sure the fellow is pardonably flat at times, and then again distressingly sharp; but on the whole the music is intelligible, welcome, and even inspiring, for it is a joyous announcement that spring is at hand. There is also, as William Hamilton Gibson writes, a felicitous "gurgle and wet ooze in it," which reminds us of the

swamp, or the swimming pool in the springtime coloring which the French artist Corot so much loved to paint. I call to mind a bulrush-bordered pond in the Middlesex Falls, near Boston, where one lovely spring afternoon I heard a dozen Redwings "gurgling" away like the rippling of a brook. After studying the singers and their songs for a full half-hour, there suddenly dawned upon my mind the unmistakable evidences of concerted harmony in the music; then, selecting the songs of six, I arranged them in proper order, with the result shown below, excepting the words (!) and the accompaniment, which were added later.*



This is really the proper way to study bird music; the *responsive* character of the song is a strong factor in the complete understanding of it. Half the bird songs we hear are questions, the other half are the answers!

In spring the male Redwings arrive first, sometimes in large flocks. It is fully two to three weeks later be

*Of course the birds sang this one octave higher than it is written.

fore the rusty-colored females put in an appearance; then, as might be expected, the conversation waxes lively, and the competitors for mates have a great deal to say about themselves for nearly a month or so before the mating begins. This is sometimes as late as the end of the first week in May. About the first part of August the birds have finished with all domestic cares, and have begun a desultory career in the open country near the coast; two months after this they are on the march south again.

Meadowlark
Sturnella magna
L. 10.75 inches
All the year

The Meadowlark, sometimes called the Field Lark, is a plump, sharp-billed, low-foreheaded bird, whose colors are a perfect symphony in light browns and yellows. A band of buff divides the crown into two equal parts, each of which is bordered by a broader buff band, which merges into yellow just above the front of the eye; the sides of the face are grayish; back a mixture of black brown and buff-gray, the black predominating; wings like the back, but brokenly barred; middle tail feathers the same, but the outer ones partly white; throat and under parts lemon yellow, separated by a broad crescent of black. In winter these colors are greatly modified with a brownish tone. The sexes are alike. Nest on the ground among tall grasses; it is wholly constructed of dry grass, and is sometimes arched like that of the Ovenbird. Egg white with specks of cinnamon brown. The bird is broadly distributed from the coast westward to Minnesota, Illinois, and Louisiana. The Western Meadowlark is a distinct species, with an entirely different, and, according to Mr. Ernest E. Thompson, a far more beautiful song.*

There is an unquestionably pathetic, if not mournful, song among those which rise from our meadows in spring and early summer which may at once be attributed to the Meadowlark. Like the Wood Pewee, this bird is one whose slurred whistle conveys an impression quite the opposite of cheerfulness. The strain is a dolorous one to an ear listening for the minor key in Nature,

*See his *Birds of Manitoba.*

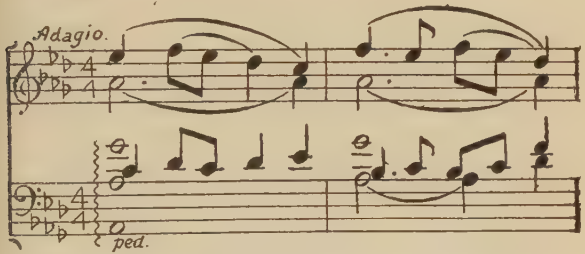
and the most optimistic interpreter could never clear it of a certain plaintive quality. That is wholly due to the bird's habit of slurring his notes. It would be impossible to represent them by dots—only a series of curves can describe his indecisive attempts at "hitting" a tone somewhere at random, thus:

No writer seems to have sufficiently emphasized this point; indeed, all have apparently neglected it. Words and high-sounding phrases are useless if not meaningless without some adequate demonstration of facts when one attempts to describe a bird's song. Now, at best, it is very difficult to convey an idea of sound on the printed page without proper musical notations; and if such notations *are* employed and one does not read music, the situation is still unimproved. Evidently, then, it becomes emphatically necessary to present the *essential character* of a song by some simple means, and make it still plainer by similes. If you will therefore whistle *the three curves* given above the way they ought to be whistled (providing there *is* such a thing as a curving whistle) you will get the Meadowlark's song! In other words, a tone must be given descending or sliding to the *first* tone below, then repeated with a slide to the *fourth* tone below, and then repeated the third time exactly as it was given at first. That expresses the essential character of the Meadowlark's music. But that is, of course, *one* song, and we must remember if fifty of the birds sing there will be fifty songs! But in every one of them the principle of the *slur* is absolutely maintained. Yet for all that, even Mr. Cheney fails to place in his notations of the Meadowlark's song the very essential slurs (i. e., dashes) and grace notes, which would stamp the music at once with its proper *character*.* It is undoubtedly the case, however, with many musicians, that they take too much for granted, and fail to be explicit. Mr. Chapman also does not "dash" the beautiful little melody on

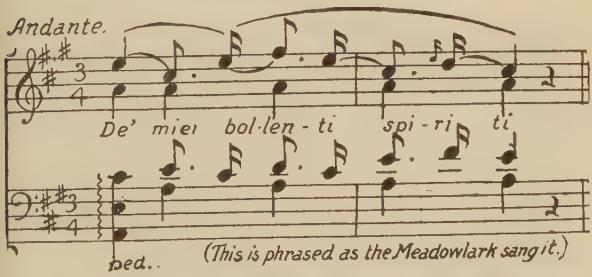
*I am at a loss to understand why, because he was a most acute observer.

Meadow Lark

page 266 of his *Handbook of Birds*, which song, he says, is common about Englewood, N. J.—a place where both the Meadowlark and the Wood Thrush sing as I have never heard them sing in the vicinity of Boston. I have given the minor response to this melody, but in the key of D flat, where it seems to me most Meadowlarks pitch their songs.



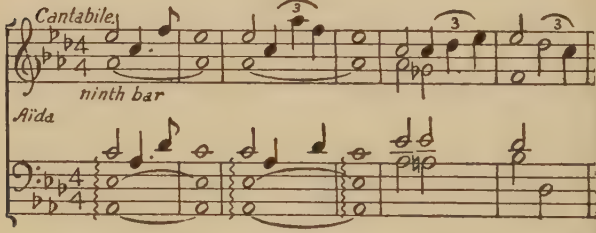
The addition of the slurs enables one to whistle the air in exactly the Meadowlark's manner, and the added accompaniment shows the true value of the melody. I heard in Nantucket in the summer of 1903 a bird which sang with charming accuracy the following first two bars from Alfredo's song in La Traviata:



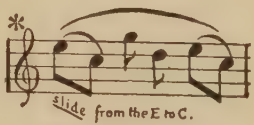
But this was sung in the same pathetic way in which Violetta sings it a little later in the same act, when she finds she must give up Alfredo. There is an unmistakable pathos in the bird's song; one fellow at Wellesley Hills sang two bars of Aïda's "Numi pieta" for me, note for note thus*:

*See Verdi's Opera of *Aïda*, Act 1.

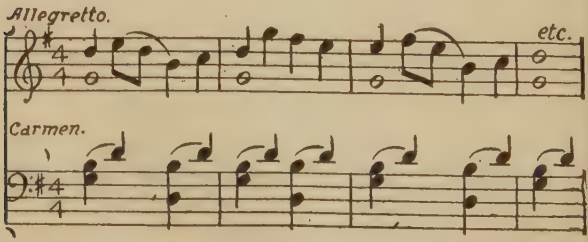
The song (on the same key) from the ninth bar, runs:



A response to this motive came from another part of the field, thus:

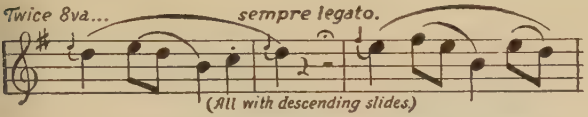


It is not always the case, however, that the music is pathetic, for one afternoon, while crossing the downs of Nantucket, not far from the Cliff west of the town, I heard a bit which was decidedly reminiscent of the song and dance with castanets, in which Carmen attempts, in the opera of her name, to lure José away from his duty:

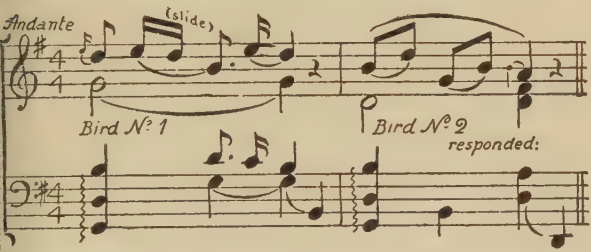


This, it must be admitted, was not sung in quite the

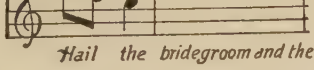
ively way the *libretto* would demand, but the melody was correct:



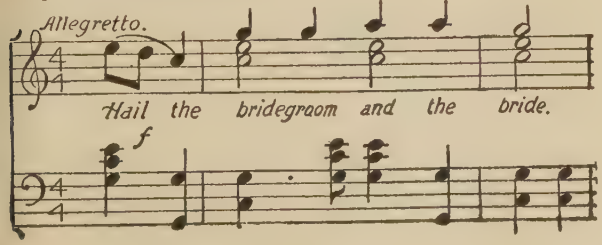
A moment later, however, another bird spoiled the whole effect by finishing the song the wrong way, thus



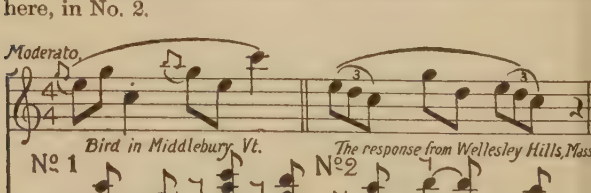
Meadowlarks, and birds in general, for that matter, are prone to take unwarranted liberties with operatic scores, as is witnessed by the following bit from Gilbert and Sullivan's *Ruddygore*, which came from a Meadowlark in the vicinity of Boston:



He hailed the bridegroom but drew the line at the bride; why did he not finish?



But I am unable to say whether he had a grudge against the bride or simply forgot his part! To speak frankly about the musical ability of this bird, whose name fosters rather sanguine expectations, it is proper to say at once, that for so promising a fellow he is a fraud. His voice is disappointing, wiry, and thin, and his attempts are always unfinished. Therefore he cannot justly be considered one of our *best* song-birds, even though Wilson seems to have entertained a fairly good opinion of him. For he writes, "Though this species cannot boast of the powers of song which distinguish that 'harbinger of day,' the Skylark of Europe, yet in richness of plumage, as well as in sweetness of voice (as far as his few notes extend), he stands eminently its superior." To sum up his qualities in a few words, he gives us a few whistles in clear, subtile, tremulous cadences which are really very fine and sweet. But he is not to be compared with the Wood Thrush in tone of voice, nor with the Song Sparrow in variety of song-motive. He is a delightful songster, however, and his fragmentary motives when connected together form an excellent bit of melody; for instance, the song below (No. 1), which came from a bird in Middlebury, Vt., finds its response in the melody previously given (marked with an asterisk), from Wellesley Hills, Mass. The response is repeated here, in No. 2.



Of all birds the Meadowlark is the most provincial; he ranges over a vast territory, does not migrate very far from his breeding place, or perhaps does not migrate at all. As a consequence his character is perfectly reflected in his song; that, too, is strikingly provincial. The birds

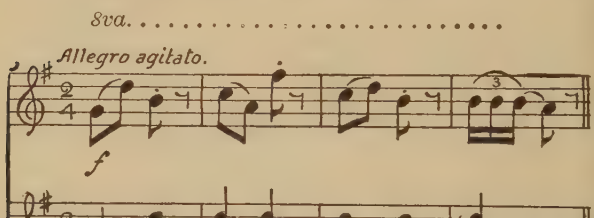
of Vermont sang a song so strange to me that at first I did not recognize it; again the birds of Nantucket sang a different song; and now, after a disinterested consideration of the whole matter, I have come to consider the song of the birds in New Jersey but one of many forms each of which is distinguished by some local characteristic. But in every case there is *one* thing we can rely upon as unchanging, that is the descending "slur." Mr. W. E. D. Scott particularly emphasizes the provincialism of the bird, and then adds: "Should you hear the song of the Meadowlark, say in Denver, or in New York, or at any point in Florida, I feel sure you would never recognize it as the song of the same bird." But there his discrimination ceases—he reckons with *form* but fails to reckon with character. I have never seen the bird in the Pemigewasset Valley.

Orchard Oriole
Icterus spurius
L. 7.30 inches
May 15th

Compared with its relative, the Baltimore Oriole, this Oriole cannot be called common. Its normal range does not extend farther north than Massachusetts, and even in that State it is local. In colors the Orchard Oriole does not compare with the gorgeous Baltimore. The breast and under parts are chestnut, a tone of burnt sienna; head, neck, and upper back black; lower back chestnut; throat black; wings rusty black with chestnut shoulders, the tips of black wing and tail feathers a trifle whitish. The female is grayish olive green above and very dull lemon yellow beneath; wings dusky brown with two whitish bars. Nest pendent, or nearly so, woven of grasses and similar to that of the Baltimore in materials; usually in an apple-tree, or any small tree near a house, and situated at the extremity of a limb, not more than twenty feet above the ground. Egg, spotted and scrawled with brown or black. The range of the bird is from the Gulf States north to southern New England, Michigan, and Ontario. Although he generally frequents the orchard, he is often seen in the garden and among the shade trees of the lawn.

The Orchard Oriole is an exceptionally good songster,

but I have not been able to gather a sufficient number of records of his song to enable me to authoritatively describe its character. It is, of course, very similar to that of the Baltimore, but it is more flexible and expressive. Also, the notes are often characteristically *separated into groups of three*, thus:



This is the only record I have, and one cannot be sure that its character is one which distinguishes the song of the species; the delivery is certainly more rapid than that of the Baltimore, but the notes are in consequence confused. Mr. John B. Grant writes, that he tunes "his lively notes in a manner so hurried, that the ear is scarce able to thread out the shrill and lively syllables of his agitated ditty. Between these hurried attempts, he also gives others which are distinct and agreeable; but still his tones are neither so full nor so mellow as those of the brilliant and gay Baltimore."

Baltimore Oriole
Icterus galbula
L. 7.50 inches
May 10th

The brilliancy of this Oriole's feathers has given him two significant names, Golden Robin and Firebird, also the pendent character of his nest has added another Hangnest. But the name Baltimore Oriole has prevailed above the others, and it is to be hoped will eventually displace them, for the bird is no relation whatever to either the American or the English Robin, and in appearance it does not suggest a fire nor a nest. It does, however, deserve the historic name of the first Lord Baltimore, as his Lordship's arms were bla-

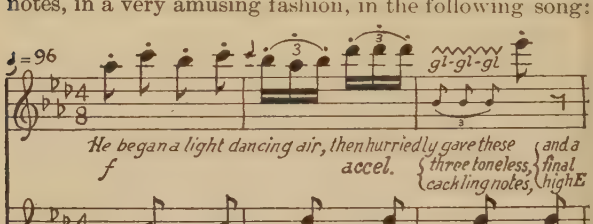
Baltimore Oriole Orchard Oriole

oned orange and black, and the bird's colors are the ame. The head, neck, shoulders, and the upper part of ne back are jet black; breast, lower back, and the under arts brilliant cadmium orange; wings black, lesser overts orange, margin of the greater coverts tipped with vhite; end half of middle tail feathers black, the rest range with a middle black band. Female similarly narked with burnt orange (very dull) and rusty black. Nest, pendent from the Y of a small branch at the extremity of the limb twenty to nearly fifty feet above the ground; woven of plant fibre, string, hair, grass, etc., and a perfect pocket in shape. Egg, white, curiously narked with scrawls of sepia brown, and with few spots. The female does nearly all the nest-building; it is doubtful if the male is very often allowed to assist.* Mrs. Olive Thorne Miller has named the young Oriole the cry-baby of the bird world, and that it is entitled to the appellation there is no shadow of doubt, if we except the young Swift. Both birds at a certain age keep up an incessant chippering clamor for food.

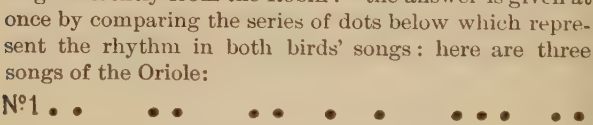
The Oriole is a musician in the fullest sense of the word. His ability to whistle a well-constructed song is unquestionable. His only fault is his fragmentary treatment of a good theme, and his chary way of singing it. He is lavish with calls and chatterings, and devotes too much time to preliminaries before he begins on the song that he is well able to round out to a satisfactory finish. In this regard he is not equal to the Song Sparrow, whose exuberant good spirits are expressed by twenty songs in the same period of time that the Oriole would take for five. But the Song Sparrow's voice is thin and weak beside that of the Oriole; the latter has a full, rich, round, though somewhat metallic whistle, suggestive of the mezzo-soprano, generally reliable in pitch and percussive in effect. Oriole, too, is not without the harsh, grating, unmusical note that belongs to his family (*Icteridæ*); for sometimes you hear a scolding tone issue from his bill that is reminiscent of the Grackle. A bird

*Certain authorities to the contrary. But the male *does* assist; my own observations are sufficiently supplemented by those of W. E. D. Scott, vide *Bird Studies*, p. 90. G. P. Putnam's Sons.

I heard in the Arnold Arboretum introduced these harsh notes, in a very amusing fashion, in the following song:



If one should ask the question, "How does the Oriole sing differently from the Robin?" the answer is given at once by comparing the series of dots below which represent the rhythm in both birds' songs: here are three songs of the Oriole:

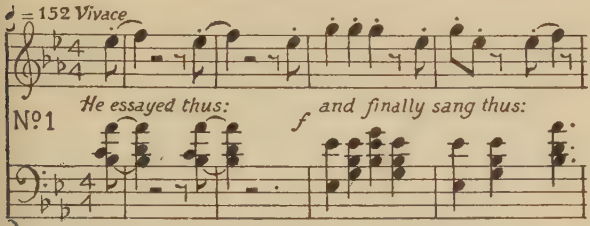


and here is the Robin's:

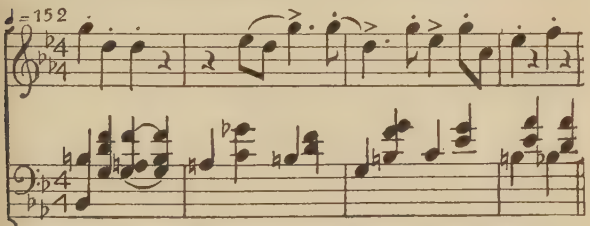
It would be practically *impossible* for the Robin to sing that succession of notes at the end of No. 3. Moreover nearly every note the Oriole sings is given staccato, i. e., in a percussive manner.* All the Robin's notes are tied together in groups of three, or rarely two. Robin sings a detached or interrupted warble, and continues that sort of thing indefinitely; Oriole does nothing of the kind, he begins a shorter song and continues it without interruption (except by syncopation) to its close; the different spacing of my dots indicates the respective values

*In imitating the staccato character of the Oriole's note it is necessary to put the tongue with the tip at the *roof* of the mouth directly behind the upper front teeth, then it can be used as a valve to permit the sudden escape of a whistled note which must be cut short by the tongue being returned *at once* to its position.

of the notes only. Now the music of song No. 1 from a bird in Forest Hills, Mass., is as follows:

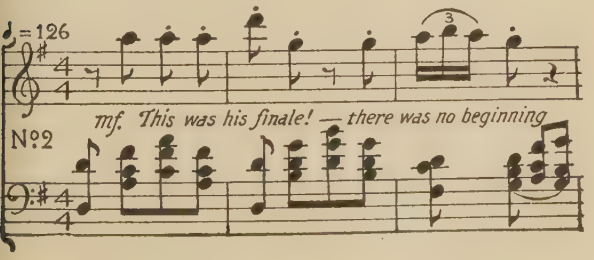


It is to be regretted that the bird did not finish, or supplement his theme with the following variation, which strangely enough came from another fellow in another part of the State (Roxbury), a year later:

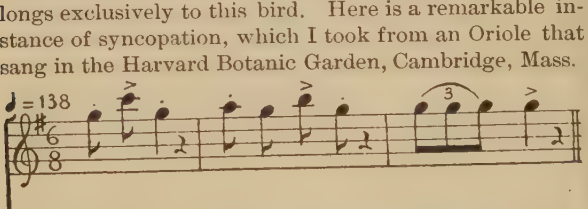


But that is usually the way with Orioles, they leave you to find out who has the rest of the tune and where it will be heard, while they forage among the blooms of the old apple-tree in search of caterpillars. Occasionally, again, one gets the last half of a tune and *never* hears the first part.

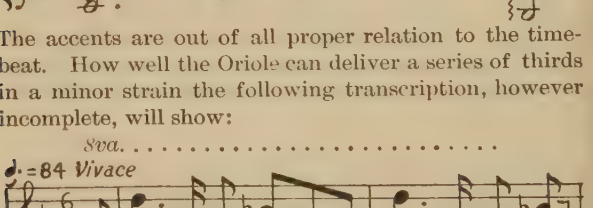
Here is an instance:



It came from an Oriole one morning in June, as I sat on the piazza of my cottage in Campton. The bird came and went in a few minutes and I never got another note from him. This is the music of song No. 2 in the preceding records; certainly it is a most sprightly cadenza deserving a good beginning. All of this music is remarkable for its syncopated character; look at the bars and it will be seen that the bird occasionally fails to put in an important note at the proper place, or that he accents a note without reference to the time-beat. In music this is called syncopation, and in the popular estimate, rag-time! I have never discovered this character in the song of any other species than the Oriole; it belongs exclusively to this bird. Here is a remarkable instance of syncopation, which I took from an Oriole that sang in the Harvard Botanic Garden, Cambridge, Mass.

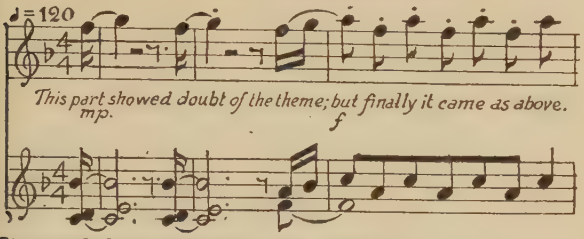


The accents are out of all proper relation to the time-beat. How well the Oriole can deliver a series of thirds in a minor strain the following transcription, however incomplete, will show:



and one of the most striking instances of his ability to jump back and forth on an interval of a third, is de-

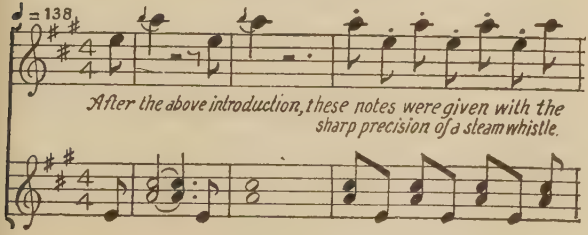
monstrated in the next song, which I heard early one morning before rising, in Springfield, Mass.



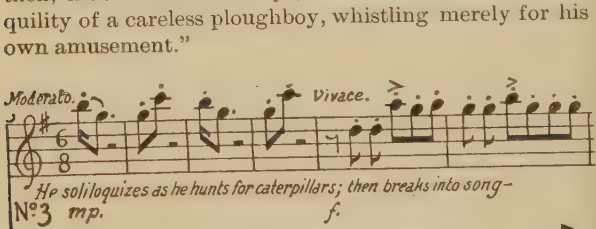
It sounded at first like a boy whistling, who was not quite sure of his theme. But at last I recognized the unmistakable staccato style of the singer—it was the Oriole, and he was practising a bit of that familiar song in the opera of *Martha!*

"I can wash, sir, I can spin, sir,
I can sew, and mend, and babies tend."

Oriole has a certain vehement if not excited way of singing which is all his own. No other bird can give a staccato note so well, none other, except the Thrush, can approach him in clearness of style; he never mixes things up, his A is A, sharp or flat, it never gets too near B. His song may be doubtful in pitch, he may even be quite out of tune, but he never slurs over a passage, or slides down the scale like the Wood Pewee; on the contrary, he hits his notes with hammerlike taps directly on the head! He is a sharp-billed, sharp-witted character, and his remarks are as incisive and crisp as the toots of a steam whistle; the following record, which I got in Campton, N. H., will show that plainly:



After observing the Oriole, one realizes how unlike the Robin he is in vocal habit and method of work. He carefully searches every leaf among the smaller branches of some tree near that in which his mate sits on her nest, and at the same time whistles a note or two perhaps to assure her of his whereabouts, but in a very desultory manner, as if business were too important to waste any time in song. His note is immediately changed, however, if anybody approaches the nest or any harm threatens, then it becomes excited, harsh, and metallic, and is often repeated in a series of rapid, high tones sent out as a warning to his mate. When all is quiet again, he resumes his hunt for food, and soliloquizes now and then, much as Wilson says, "with the pleasing tranquility of a careless ploughboy, whistling merely for his own amusement."



This is song No. 3 of the foregoing dotted records. Rarely the Oriole invades the garden and helps himself to green peas, but as a rule his food is arboreal in character, and consists of beetles, caterpillars, grubs, and ants.

Purple Grackle. Crow Blackbird *Quiscalus quiscalus* **L. 12.00 to 13.25 inches March 10th**

The solemn, large Blackbird with an iridescent violet-blue neck, which walks with some deliberation over the ploughed ground of spring, especially in the region south of Massachusetts extending to Georgia, is the Purple Grackle. His head, neck, throat, and a limited part of the breast are lustrous violet-blue with steel-blue and green-blue intermingled; back and rump metallic bottle-green

and magenta-crimson intermingled, the feathers showing *a defined iridescent barring;* wings and tail metallic violet and blue-black; lower parts like the back, but lacking lustre. Female similarly marked but the colors much duller. Nest, a compact mass of mud and coarse grasses lined with finer grasses; generally in colonies in coniferous trees, about twenty to thirty feet above ground. Rarely in thick bushes. Egg, a varying pale blue-green marked with specks and scrawls of cinnamon-brown or sepia. The range of the bird is, as stated above, east of the Alleghanies, and westward only in the lower Mississippi Valley.

The Purple Grackle is a songless bird, and his conversational notes are not altogether musical; they lack the rhythm and "chink" of the Red-winged Blackbird's *o-ka-lee*, and the ringing quality of the Blue Jay's *ger-rul-lup*. But he gives us a good octave and sometimes a sixth, in a resonant metallic whistle, though most of his notes sound like the twanging of piano wires, and his harsh *cr-r-r-r-rrr* like the click of a watchman's rattle. Comparing this species with the Bronzed Grackle, Ridgeway says that the song of the western bird is "very much louder and more musical or metallic" than that of its eastern relative.

In the Mississippi Valley the Purple Grackle is abundant; farther east in New England, it is decidedly local, though frequently seen in the period of migration. After July it becomes rare by reason of its collecting in large flocks and retiring to some place where there is an abundance of food; but again in the fall it reappears in large numbers preparatory to the southern flight.

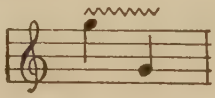
Bronzed Grackle
Crow Blackbird
Quiscalus quiscula aëneus
L. 12.00 inches
March 15th

This large and handsome Blackbird differs from his near relative the Purple Grackle in the color of his back, which is a lustrous bronze.

The head, neck, throat, and upper breast are brilliant steel-blue, violet, and green-blue intermingled; wings and tail metallic violet and blue-black; under parts similar to the back but lacking the lustre. Female without the

lustrous sheen of the male, the back and under parts brown without iridescence. Nest generally in pines or spruces, compactly built of mud and coarse grasses, lined with finer grasses; usually twenty to thirty feet from the ground. Egg variable, pale blue, or blue-green blotched and scrawled with light and dark brown. The range of the bird is from Labrador southwest to the lower Mississippi Valley (on the west slope of the Alleghanies only), and thence to Texas, then northward to Great Slave Lake*; it does not occur north of Pennsylvania.

Tho Bronzed Grackle's note strongly resembles the noise of a squeaky hinge on an iron gate! The bird has no song, and there is no music in his harsh conversational chatterings. If one takes a sheet of note paper and whistles an octave against its edge, the quality of the tones produced, with their wide interval, closely imitates the Grackle's best note.



One certainly can not call that music! The other queer noises sound like rattling shutters, watchmen's rattles, ungreased cart wheels, vibrating wire springs, broken piano wires, the squeak of a chair moved on a hardwood floor, the chink of broken glass, the scrape of the bow on a fiddle string, and the rest of those discords which commonly play havoc with one's nerves! Evidently when nature's orchestra was tuning for the Spring Symphony, the Grackle failed to screw up his vocal cords to the proper pitch.

The birds are gregarious even during the nesting season, and in spring and summer seem to be equally busy "ploughing up" the earth in the already broken field with their long, crowlike bills; naturally such action creates trouble with the farmer, but on the whole, an examination of the constituents of the bird's diet, shows

**Vide* Chapman's *Handbook of Birds.*

that he is a greater insect destroyer than a crop destroyer.

Family *Fringillidæ*.

Finches, Sparrows, Grosbeaks, etc.

This is the largest and most important family of birds; important not only because its members are common in all parts of the country, if not the whole world, but also because they are, to a certain extent, our best common songsters. The list includes some excellent vocalists which are surpassed only by the Thrushes, viz.: Purple Finch, Evening Grosbeak, Goldfinch, Vesper Sparrow, White-crowned Sparrow, White-throated Sparrow, Field Sparrow, Song Sparrow, Fox Sparrow, Chewink, Rose-breasted Grosbeak, and Indigo Bunting. These are no ordinary singers, and if we should include the more southern Cardinal Bird, our American list would be beyond comparison the most musicianly one in the world! The Song Sparrow alone is unexcelled in variety of song-motive and in accuracy of pitch.

The family is distinguished for its broad, stout, conical bills, which are strongly built for hard work on gravelly soil where seeds are usually distributed, and for the crushing of the seed-coating or shell. The development of such a bill as this has been instrumental in giving a certain character to the voice. That of the Rose-breasted Grosbeak is a notable instance; it is modified and mellowed by the large cavity of the beak.

As the family is chiefly dependent upon seeds for its sustenance, many members are not so migratory as they would be did their diet consist wholly of insects. The Sparrow tribe is also one with distinctive ground habits, and its mixed brown coloring is admirably protective; especially so is the light, neutral tinting of the under parts which compensates for the otherwise conspicuous shadow of the dark figure.*

*This remarkable adaptive coloring of birds and animals has been a subject of special study by the artist Mr. Abbott Thayer, whose lectures on this topic are supremely instructive and interesting.

Purple Finch
Linnet
Carpodacus purpureus
L. 6.20 inches
April 12th, or all the year

This Finch is the first bird of importance as a singer in the family to which he belongs. I have no knowledge whatever of the song of the splendidly colored Pine Grosbeak, a distinctive northern and winter bird which occasionally visits Campton in mid-winter, and very little of the warbling song of the Evening Grosbeak, a Mississippi Valley bird. In order, these two species come before the Purple Finch. The latter songster is the most perfect and lovely *warbler* we have. The term warble is unfortunately too indiscriminate in its application to the song of a bird, and it needs the clear definition which I have endeavored to give in the pages which follow. Also the term purple is an unfortunate color description which, at the very best, is absolutely misleading. I know of no North American bird which possesses a single purple feather ! *

The Purple Finch is not purple, his colors are those of a Song Sparrow suffused with crimson to a greater or less degree. Head, breast, and lower back strongly tinged with crimson, that color fading to a faint tint, almost white, on the lower parts; back, madder or crimson brown; wings and tail sepia brown, the edges of the feathers light crimson, the tail distinctly forked. The female lacks the crimson tinge and has the appearance of a brown Sparrow with gray markings. The bill of this Finch is remarkably stout, and of a brownish horn-color; over its base are a few fine feather-tufts. The nest, built of rootlets and grasses, is generally in an ever-green tree, and on a horizontal branch from ten to thirty feet above the ground. Egg light greenish blue, spotted with sepia at the larger end. The range of the

* Purple, nowadays, is considered almost a violet; it is simply violet leaning toward crimson. What the ornithologist means by purple is *crimson*; the botanist makes the same mistake, his purple flower is usually crimson or magenta. Both scientists use the term with its classic significance, precisely as it is used in King James's version of the Scriptures. The men clothed in "purple and fine linen" wore *crimson* and white garments. There is no excuse for employing obsolete words with obscure meanings in these latter days when accuracy in the statement of fact is considered imperative.

American Goldfinch Purple Finch

bird is throughout eastern North America; its food consists mostly of seeds and berries, but there are unquestionably frequent depredations committed among the blossoms of the fruit trees.

As a singer the Purple Finch has no equal when we exclusively consider his method. He is a warbler with an incomparably sweet warble. In a measure his song is like that of the Warbling Vireo, but it is far beyond anything which that bird ever attempted. The Vireo's warble is stereotyped, that of the Finch is untrammelled and characteristically variable. The Vireo's warble is scarcely *sweet*, it is rather lively and cheerful, although it produces the impression that the bird has rolled it around in the mouth like a sugarplum; but the *quality* of *tone* lacks the fulness, the richness, of the Finch's tone. There is a ripeness, or mellowness to the voice of the Finch which I attribute entirely to the superior size of his throat and bill. As a consequence, this larger bird has a stronger and deeper voice, he sings quite half an octave lower than the Vireo, with the advantage that he can put more expression in the lower register, and he does so, for his song is singularly sentimental, indeed, its passionate persuasiveness is truly loverlike and irresistible.*

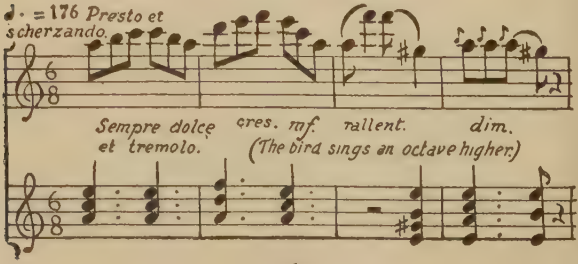
Mr. Eugene P. Bicknell calls the song "a sweet-toned, carelessly flowing warble," and adds to this a rather poetic estimate of it; but for purposes of identification, such a description of *music* is manifestly inadequate. A song which bursts forth under "stress of gladness" can be illustrated at the piano in a hundred different ways. Neither is it possible to adequately demonstrate the song by a series of dots which will represent the notes; this is the only way it would be possible to print such dots:

and they certainly do not carry with them very much meaning! It is better for a more perfect comprehension

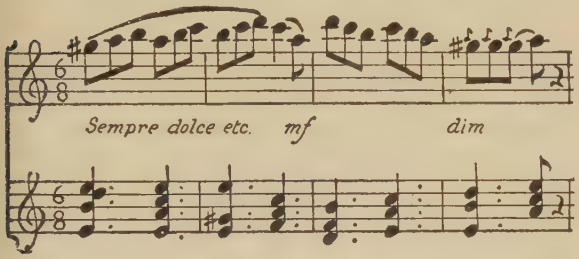
* I consider this lower register of the Linnet's or Purple Finch's voice the key to his popularity as a singer, for he is often caged The register of the Canary is too high for *expression.*

of the song to ascertain exactly what is meant by that simple but expressive English word *warble*. In old French, the word *werbler* meant *to speak with a high voice*. The German *wirbeln* also means *to warble*, or *to whirl;* evidently our English word, therefore, has been adopted to describe a voice which sings high, and *quaveringly* or *whirlingly*. That, to my mind, is precisely the way warbling birds sing! Run your eye rapidly along the dots and dashes above which represent the Purple Finch's song, follow them with the pencil's point and at the same time whistle quaveringly and rapidly any notes you please, comprehending, say, an interval of a sixth, and you will have an approximate representation of this Finch's song. The dashes, of course, represent slurred tones, the character of which has been fully explained in the musical key. The dots should be considered as so many distinct tones given with a musical *shake*. Call this shake a *trill* if you prefer the word, but be sure that you *shake* or *trill* on each *one* of the dots, and do it very rapidly, too, for the song as above written must not occupy a fraction more than three (see metronome figures given at head of song) seconds of time! To be still nearer the truth, it is also necessary for you to "burr" all the notes, that is, hum and whistle simultaneously. No doubt the directions appear complicated, but in comparison with the pronunciation by an English tongue of a German expression like *Ausgegrabenes Buch*, the difficulty with the bird's song is merely child's play!

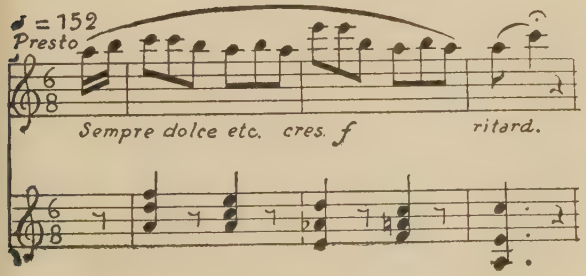
But how easy it is, after all, to follow the notes properly recorded on the musical staff:



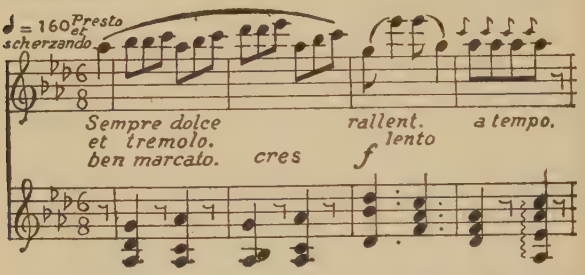
that is the song as it is demonstrated by the dots and dashes previously given. This record does not necessarily imply that the bird correctly gave the intervals as they are written, he certainly did not do that. His was a careless, free warble, but it ran smoothly along, up and down, with increasing volume, in exactly the *way* indicated on the musical staff. About a year after I took this record, I was greatly pleased to obtain another which seemed to supplement it perfectly, thus:



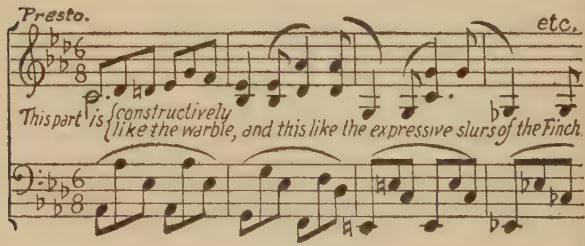
In the examination of these two motives there is every reason to conclude that the rapid and wandering movement that distinguishes both of them demonstrates the real character of the Purple Finch's music. I have never obtained anything more by collecting a score or so of other songs. It is true that all were different, but all followed the same rule; they made first-rate motives for Spanish Tarantelles! The best proof of that fact is the comparison of the following song with those which precede it.



and again this rather clever bit with the foregoing*:



One is inevitably forced to conclude that the Finch's idea of music is confined to the rapid dance-type in six-eight time to which belongs the so-called Tarantelle! No one seems to have discovered that the Purple Finch sings just this way, and possibly no one is prepared to deny it; so perhaps it is proper to prove the case by introducing a bar or two of Chopin's wild Tarantelle for the sake of comparison:



This may seem a far-fetched simile, but one must not look for similarity of melody between the great composer's work and the song of the bird, *that does not count for everything*, in this particular instance it amounts to nothing; it is the musical *construction* or *motive* which counts, and who will venture to deny that the bird and the musician worked out their melodies upon precisely the same musical principle?

* I confess that the rapidity with which this scrap must be performed at the piano according to the metronome time is something which will tax the ability of a musician.

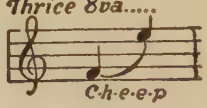
American Goldfinch
Astragalinus tristis
L. 5.10 inches
May 15th, or all the year

This beautiful little Finch is quite as often called the Yellow-bird, or Thistle-bird, two names which are due to his coloring and his association with ripe thistles the seeds and down of which respectively furnish him with food and a soft nest-lining. Although he remains all winter in certain parts of the country, he is a late arrival in the colder climate of Campton, and I scarcely expect to see him with many of his fellows much before the latter part of May. In spring and summer his coloring is a brilliant combination of pure lemon yellow and black. The head-cap is black; upper and under parts bright yellow; wings black; the shoulders and secondary feathers white at the tips; tail black, with the inner vanes partly white. In winter the yellow is replaced by an olive gray similar to that of the Canary, who is his very near relative.* Coloring of the female similar to that of the male in winter. Nest of grass, moss, and shreds of bark, lined with thistle-down; it is generally lodged in a Y fork of a tree or shrub, and is from six to twenty-five feet above the ground. Egg bluish white and unmarked. This Finch is common throughout eastern North America. The greater part of its diet is grass and weed seeds.

The song of the Goldfinch is, in part, very similar to that of the Canary. It is replete with the lively humor of the bird. One cannot listen to the full song of a characteristic singer without laughing involuntarily at the unmistakable glee in which it is executed. Only the Bobolink can excel the Goldfinch in spontaneity of feeling, and not even he can cram so much pure *fun* into one short musical sentence! The Canary splits his higher register into a series of ear-piercing trills; the Goldfinch does not trill at all! The Bobolink zigzags at a presto pace through a cluster of indescribable metallic tones as crazy as they are scintillant; there is no wild zigzagging nor any scintillating among the notes of the Goldfinch. The similarity of the music of the Canary and Goldfinch

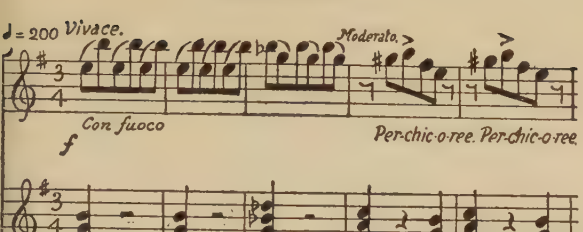
* As a general rule, the so-called olive coloring of a bird is the result of an admixture of black and yellow in finest subdivision; there is actually no true green in the tint.

can be directly traced to the metallic, cut-glass-jingle quality of the notes of both birds, and to the slurring, *chirping* way in which these notes are delivered. Only these two species can give us that long, violinlike, swinging tone which covers nearly an octave in its reach upward on the musical scale; here it is:

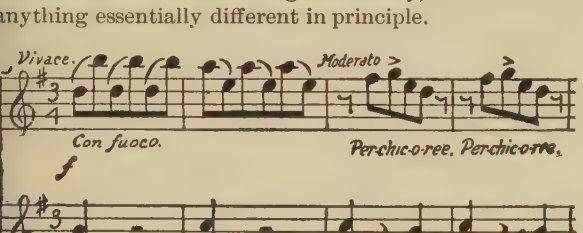


One is often deceived into thinking a Canary is in a neighboring tree, when that familiar *c-h-e-e-p* comes from it. To be sure, that is only the call-note, but it has the same character that pervades the whole song of the Goldfinch, which, as a matter of fact, consists entirely of a series of *rapid chirps* with *almost no melodic form*. It is impossible to find in this Finch's song the melody which is so attractive in the music of the Song Sparrow, or the rhythmic form which makes the White-throated Sparrow's melody so charming. We must look for something else which will reveal the Goldfinch's "style"; that will be discovered in the following arrangement of dots:

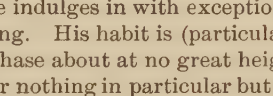
These dots practically mean six or more rising chirps, three or more falling ones, and two clusters of four notes which Mr. Chapman and others describe by the words *per-chic-o-ree*. This, however, is not an arbitrary form; the bird may begin with several chirps in a falling inflexion and thus reverse the order given above, and he may also give a different *number* of chirps; but inevitably at the close of the exuberant chirping he will add his *per-chic-o-ree*, and when he does that, he signs his *musical autograph* as perfectly as he would if he could write at the end of the music bars—"American Goldfinch!" The music on the staff does not appear different from the dots:



the pitch and the key are of no particular value, but the relative positions of the notes accurately represent the fluctuations of the tones of voice. A second record which follows (the two fit together nicely) does not show anything essentially different in principle.



There are the same rapid upward and downward chirps, and finally the little musical addendum—the *per-chic-o-ree;* this last he indulges in with exceptional gusto while he is on the wing. His habit is (particularly in the late afternoon) to chase about at no great height in the blue summer sky for nothing in particular but the pleasure of the thing, and tell all the world that he is feeling remarkably "chipper"; as he goes he sings with a thin wiry voice:



and he does so rhythmically with his undulating flight, always breaking out with the song just at the *crest* of the

wavelike curve. The swoop downward is, of course, with closed wings, and the recovery is effected at the bottom of the flight by some rapid flips of the wings, then up he goes, and again the cheery notes. It would seem as though the writer of those familiar lines—

> "Or if on joyful wing,
> Cleaving the sky,
> Sun, moon, and stars forgot,
> Upward I fly"—

must have seen this bird's afternoon performance, or he never could have chosen a simile so remarkably suggestive of the joyous heart of the happy little rover. Both in this peculiar habit and in character of song the American Goldfinch resembles its European relative. Audubon says, in describing the bird, "So much does the song of our Goldfinch resemble that of the European species, that whilst in France and England, I have frequently thought, and with pleasure, that they were the notes of our own bird which I heard."

Mr. Chapman says, "Their love song is delivered with an ecstasy and abandon which carries them off their feet, and they circle over the fields sowing the air with music. The song has a canarylike character, and while it is less varied it possesses a wild ringing quality wanting in the cage-bound bird's best effort." But I have already explained the real difference between the Canary's and the Goldfinch's songs, and it only remains to say that if the two birds were singing in the same tree along with the Purple Finch, the melody of the latter with his mellow lower register would completely overpower the voices of the other two birds and their songs would sound like so many squeaking violin strings!

There is only one occasion when the Goldfinch has things all his own way so far as forceful singing is concerned; this is at five in the morning, in the maple close by your open window. There he is with fifty of his fellows, and all sing "at the top of their lungs" whether you wish to sleep or not! In that situation evidently the Purple Finch would be in the minority, song and all!

Snow Bunting
Snowflake
Passerina nivalis
L. 6.80 inches
November 1st to April 1st

This is an essentially beautiful winter bird whose music is not equal to his æsthetic coloring, but whose cheery appearance in midwinter in the farmyards of our most northern States is hailed with delight. He is after the remnants of scattered grain.

The Snow Bunting is the one sparrowlike bird which may be described as nearly white, though there is somewhat of brown and burnt sienna to be reckoned with in an inventory of his colors. In summer the male is white excepting back, shoulders, and inner tail feathers, the *end half* of the primary feathers and the inner secondary feathers of the wings; these are all black. The female at this season is streaked throughout the upper parts with black of a dull tone, and the wing feathers are sepia brown. In winter the male is tinged throughout the upper parts with burnt sienna more or less modified by the black bases of the feathers; wings and tail are similarly suffused with burnt sienna which tips and edges the feathers; the same color washes the breast and sides. The female at this season is similarly marked, but the primaries are sepia brown. The nest is built on the ground; the materials used are plant fibres, grasses, and moss. Egg blue-white heavily marked with red-brown. The bird breeds only in the arctic regions, and migrates south in winter to the more northern States including Illinois, Kansas, New Jersey, the coast of Virginia, and Massachusetts. It feeds exclusively on seeds, and is generally accustomed to move in rather large flocks; often it is seen on the coast in association with the Shorelark. The bird walks, and never progresses by hopping; it is essentially a *ground* bird, and seldom if ever takes to a tree unless pursued, preferring rather a fence or a roof. Mr. Ernest E. Thompson says, "As long as the snow lasts the Snowflake stays, and as soon as the ground grows bare . . . this bird of winter betakes himself again to the north, as far as ever human foot has been, and there builds his nest."

Of the song of the Snow Bunting I think very little is known. Pennant says, "They breed in Greenland, arrive there in April, and make their nests in the

fissures of the rocks on the mountains in May. The outside of their nest is of grass, the middle of feathers, and the lining, the down of the arctic fox. They sing finely near their nest." That seems rather meagre information from a musical point of view! Thompson says one time when a chill blizzard was blowing on the plains he saw the little bird "gleefully chasing his fellows, and pouring out as he flew his sweet voluble song with as much spirit as ever Skylark has in the sunniest days of June." Nor does that throw very much light upon the situation! It is plain, also, that the few whistled chirps we hear from him in mid-winter do not foreshadow his ability to sing the sweet melody which apparently he must sing during the nuptial period spent in the far north, for Mr. A. Hagerup testifies to the exceptional excellence of the bird's music in no doubtful terms: he says, "In Greenland his song is a sweet and pleasing melody, though it is rather disconnected and delivered in short stanzas,—a warble is perhaps the English term best adapted to describe its character." This is at least definite and conveys the impression that the song is not unlike that of the Purple Finch in structure although it is evidently cut up in the same fashion as that of the Goldfinch, but perhaps in shorter measures.

But the Snow Bunting in our part of the world is more interesting in color than in song, for we can scarcely expect to hear his music within the boundaries of our northern States. His appearance in the winter season is preëminently picturesque, for he furnishes the artist with all the color and movement necessary to make a winter bird attractive and beautiful; his is a combination of the white of the whirling snowflake, the rusty brown of the sear leaf, and the black of the frost-bitten plant-stem—all tones of color admirably adapted to his self-protection.* He is graceful, too, in every movement, and especially so when he skims in a low and glancing flight across the snow with a dozen of his fellows in close company.

* What skulking fox would see him in a costume like that among the shadows on the snow beneath the withered stems of the dead golden-rod!

Snowflakes

VESPER SPARROW.

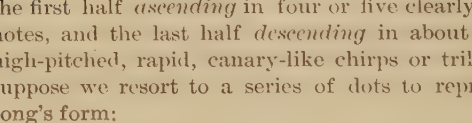
Vesper Sparrow
Poœcetes gramineus
L. 6.10 inches
April 10th, or all the year

This Sparrow is sometimes called the Grass Finch from its habit of spending the greater part of its time in the fields foraging for seeds. Its coloring is not very unlike that of the Song Sparrow, though it is somewhat grayer, and its distinguishing mark is the white tail feathers which the other bird does not possess. Upper parts gray-brown similar to that of the weathered fence rail; considerable streakiness in ochre and black modifies this color; wings sepia brown with two inconspicuous white bars; the shoulders are a bright chestnut brown; tail sepia brown with the outer feathers on either side nearly all white, the next pair with more or less white; breast and sides streaked with ochre and black; under parts dull white. Female similarly colored. Nest of grasses and rootlets, lined with finer grass and hair; it is built upon the ground. Egg, pinkish white speckled with chestnut or umber brown; it is sometimes bluish white evenly and thickly speckled. The range of the bird is throughout eastern North America with the western limit at the Plains. It winters along the coast from southern New Jersey southward. Its chief food is the seed of various weeds, etc. Like the Snow Bunting it is essentially a ground bird.

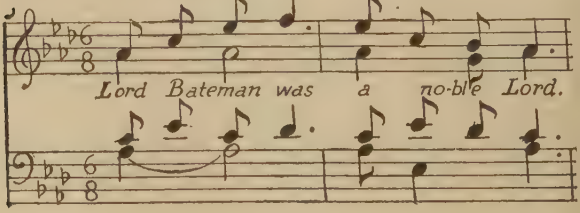
The Vesper Sparrow is a splendid singer chiefly for the reason that he seems to consider song a serious piece of business which must not be interrupted by any of the other duties of life. He will never be found feeding and singing at the same time; the Red-eyed Vireo and the Oriole do that sort of thing habitually; both birds have a fashion of sandwiching their songs between tid-bits of grubs and caterpillars. But not so with the Vesper Sparrow, for when he sings he selects a high perch (in Campton his favorite place is the ridge-pole of the bowling alley which belongs to the hotel near my cottage), and begins a season of song which is likely to last without interruption for nearly half an hour! A great deal is written about the purity and beauty of this Sparrow's song, but it is a very simple matter to demonstrate the fact that it does not compare with the remarkable

melodic accomplishments of the Song Sparrow. A few minutes' examination of the records of both birds' songs should be sufficient to convince the most ardent admirer of the Vesper Sparrow that his is not the "best bird!" Some years ago I tried to learn through the books and various ornithological friends, what difference there was between the songs of these two Sparrows, but I tried in vain. That there was a difference, and a very distinct one too, was a foregone conclusion; but how to describe it—there was the rub! Since that time Mr. Chapman has published his *Bird Life*, and in that book he has explained the difference as well as it can be explained in a few words. But words are entirely inadequate to express a musical idea, and if I had to demonstrate the nature of the Vesper's song that way, I should supplement the words by lines, and say the structural part of it resembled the gable end of a roof, thus:

the first half *ascending* in four or five clearly whistled notes, and the last half *descending* in about as many high-pitched, rapid, canary-like chirps or trills. Now, suppose we resort to a series of dots to represent the song's form:



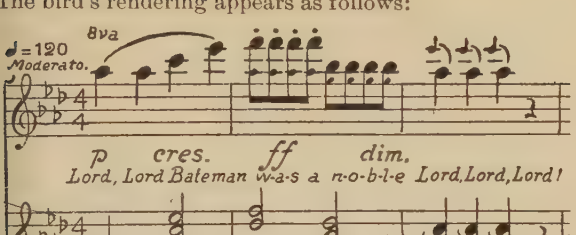
Thus, it will be seen the principle of the gable-roof lines is still maintained, and if one desires to hear the rhythm thus represented, it is at once obtained by tapping each dot carefully with a pencil. The music of the song properly written on the staff resembles the nursery melody of Lord Bateman:



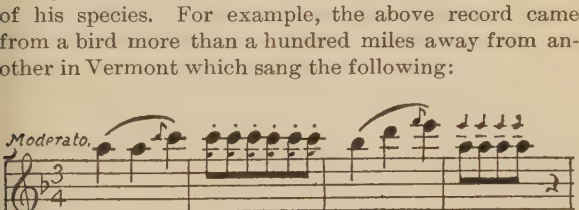
Vesper Sparrow

Grasshopper Sparrow

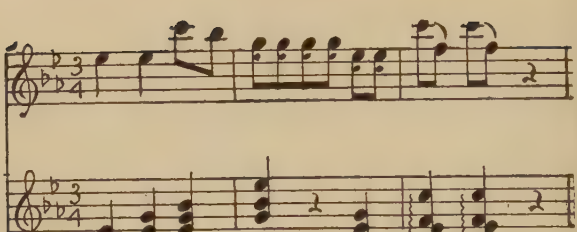
The bird's rendering appears as follows:



I consider this one of the best and most characteristic productions of the Vesper, though his *confrères* in other parts of the country by no means cling close to its melodic form. Naturally the birds of every locality develop certain provincialisms in song, and the Vesper is no exception to that rule. But he certainly does not attempt to depart from the rhythm which characterizes the song of his species. For example, the above record came from a bird more than a hundred miles away from another in Vermont which sang the following:



This record shows that the ascending and descending divisions (or halves) remain in the same relative position, although they are in a measure doubled, while the sustained tones begin and the chirped or trilled tones end the song precisely as they do in the first record. It is not always the case that the opening tones progress upward with exact uniformity; the next record shows a drop to a lower tone before the trills begin:



The character of the trills, or chirps, too, needs some explanation. In the first place, such notes can not be properly called *trills*. I only employ that term in the popular sense of its meaning rapidly repeated notes. They are slurred tones covering intervals of indeterminate length rendered in a shrill register beyond the limit of the piano keyboard, and, so far as the ear is able to detect, a whole octave higher than the sustained tones which form the first half of the song. On my diagram of bird songs (in the key), it will be seen that this Vesper Sparrow has a break in his voice equal to something like a full octave. It is no wonder, therefore, that ornithologists experience great difficulty in an attempt to describe such a song as that. But it is far from unusual among the Finch Family. I call to mind a Canary, a splendidly trained singer, who could render an operatic melody in clear whistled tones, moderately high, and at its finish strike at once into his natural wild song, which must have been considerably over an octave higher. That bird was owned by a barber whose shop was near Union Square, New York, and its value was some fabulously high figure which I do not remember.

The Vesper Sparrow sings with both style and feeling, notwithstanding the defect in his vocal register. He always begins pianissimo, swells in a fine crescendo to a high climatic group of rapid notes, and diminishes as he descends to a perfect finish in something so close to the tonic that there is no marginal inaccuracy worth mentioning. It would be useless for me to introduce any more records of his music than the three under consideration, for these embody all the characteristics of

his song so far as my knowledge extends. It is perfectly evident that his ability is limited to a simple melody with little variety, and in this regard he can not be compared with any advantage to the Song Sparrow. His name is hardly appropriate, for he sings as well in the morning and at midday as he does in the early evening, and many writers are correct in estimating the sweet and joyous character of his song as exceptionally beautiful and inspiring. He is as confiding if not altogether as sociable as the Chippy, and it is his constant habit to remain in the road hopping and flying just ahead of you at what he considers a safe distance, showing the "white feather" literally, as the tail is spread during the flight, when you get too near.

Grasshopper Sparrow
Coturniculus savanarum passerinus
L. 5.20 inches
May 1st

Of all the common sparrows this is the one whose notes are pitched *so high* that they are indistinguishable to many ears, and the bird is passed by unnoticed. Tone-deafness may not be as common as color-blindness, but it nevertheless exists, and the person thus afflicted, in nine cases out of ten, will tell you he does not hear the Grasshopper Sparrow sing when he is doing so twenty or thirty feet away! This is the common buffish toned bird of the Atlantic seaboard,* with a mixed brown, black, and buff back, and a sepia brown crown marked in the centre by a pale buff line; back of the neck ruddy brown; region in front of the eye burnt orange, and over the eye grayish buff; *the bend of the wing is bright yellow*, the primaries sepia, and the shoulders yellowish olive; the tail feathers are gray-brown and *pointed;* under parts brownish buff, generally without streaks, and fading to a dull white below. Female similarly marked. The coloring of this Sparrow is peculiarly protective, and its habit of skulking in the tall grass makes recognition difficult, but a quick glance may detect the yellow at the wing bend and the pointed character of the tail feathers; these marks are all that are necessary for its identification. The nest is formed of

* Common near the coast of New Jersey, and southern New York, and in eastern Pennsylvania.

grasses and a few hairs, and is built upon the ground. Egg white speckled with sienna brown. The range of the bird is throughout eastern North America ; it does not breed north of Massachusetts, and is very uncommon in New Hampshire. It is essentially a ground Sparrow which seldom, if ever, flies higher than the fence rail.

The song of the Grasshopper Sparrow is scarcely worth recording on the musical staff. It is difficult to tell where his voice is really pitched, but undoubtedly it is *at least* an octave higher than the topmost C of the piano ! It is a last, weak effort at music, culminating in an alphabetical conclusion which may be represented by X—Y—zee-e-e-e-e-e-e-e-e ! The tones are stridulent and insectlike, hence the bird's common name. There should be no difficulty in identifying the voice provided one is not tone-deaf !

White-crowned Sparrow
Zonotrichia leucophrys
L. 6.80 inches
May 10th

This beautifully marked Sparrow is not quite as uncommon as one would suppose for the reason that he seeks the seclusion of shrubbery and underbrush and thus escapes notice. He is often in company with his near relative the White-throated Sparrow, or Peabody-bird, and one has to watch closely for those differences in costume and song which distinguish the birds apart. The White-crown, unlike the Peabody-bird, has no yellow before the eye nor on the bend of the wing ; also his coloring is a pronounced *ashen* tone quite different from the warmer brown of his relative, and he lacks distinct wing-bars. Head striped with black and white bands of equal width ; a white one in the centre of the crown, the other two (one over each eye) extending backward from the eyes ; back of the neck, the throat, and breast ashen gray ; back darker brown-gray margined with ashen gray ; wings dusky brown, the feathers edged with gray, the coverts tipped with gray-white ; tail dusky brown ; under parts grayish white, the sides buffish in tone. Female similarly marked. Nest of grasses, and placed upon the ground or in a low bush. Egg light green-blue speckled with chestnut or sienna brown. Ridgway describes the range of the bird, thus :

White-throated Sparrow

White-crowned Sparrow

"Breeds from the higher mountain ranges of the western United States, . . . eastward, north of the Great Lakes, to Labrador; in winter over the whole of the United States, and south into Mexico."

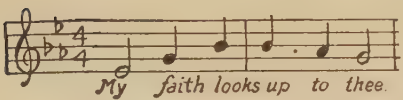
The music of the White-crown has never been adequately described, nor has its melodic value been fully appreciated, probably because the bird sings casually during its migrations, and the opportunity for the study of the song is consequently limited; as a matter of fact it is far superior in its melodiousness to that of the better known White-throated Sparrow. Constructively considered the two songs are absolutely dissimilar; in general character they bear only a family resemblance. Such an unequivocal statement, however, seems quite at variance with Mr. Ernest E. Thompson's description. He says, "Its usual song is like the latter half of the White-throat's familiar refrain, repeated a number of times with a peculiar sad cadence and in a clear, soft whistle that is characteristic of the group." Now the latter half of the Peabody-bird's (or White-throat's) song is a succession of notes invariably in groups of three, and that kind of melodic structure does not characterize the White-crown's music! I cannot too emphatically urge the importance of the governing rule in bird music, which is, that each species has formed and followed its own mechanical rhythm without relation to that of another species. Here is the proof of the case in point; the White-throat sings thus: . . .. the White-crown sings thus: ..... There are no *pea-bo-dy* syllables in this tune. At most, if the White-crown attempts a trisyllabic note, he does only this: . . ... . and one would scarcely detect the triple note because that particular one is almost sure to be *double-toned* and *not clear*.* Again, as a rule, the song of the White-crown (and that of the White-throat as well) develops nothing which a musician would call a musical cadence; in this respect, therefore, I must understand Mr. Thompson to use the term in a general sense, and refer to the modulations of the bird's voice.

*There is absolutely no double-toned note in the Peabody-bird's song.

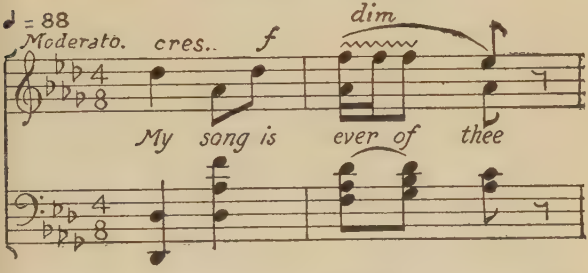
A *musical* cadence is perfectly illustrated by the latter half of the Vesper Sparrow's song, which progresses downward to the finish at the tonic. There is *nothing whatever* which remotely suggests that structure in the White-crown's song.

If I described the melody of this Sparrow, I should say, it is composed of six, or at most seven notes (unless it is doubled); the first one is *twice* as long as the others which are of about even value. The intervals are fairly accurate and include *anything* from a third to a fifth; all the notes are clearly whistled except (generally) the two next to the last, and these are distinctly *double-toned* or *burred;* the whole is marked by an even crescendo to the highest note which is next to or within one of the last, or sometimes actually the last. But Mr. Thompson's description of the song, if it is taken from the point of view which includes sentiment only, is categorically correct, for the whistle is almost all clear and it has a soft, pleading quality which is irresistibly sweet. Mr. Thompson also adds that the bird "resembles his relatives in singing his sweetest songs in the woods, sometimes during the darkest hours of the night." Mr. Ned Dearborn describes the song of this Sparrow and compares the last of it with that of the Vesper Sparrow, which might lead one to think the final diminuendo a protracted one. He writes, "The song began with a whistle as pure in tone as the notes of the White-throated Sparrow, and ended with a vocal diminuendo quite similar to the corresponding portion of the Vesper Sparrow's song." The diminuendo is indeed there, but it is a short one, and in comparison with that of the Vesper's performance quite insignificant, for the Vesper's diminuendo embraces nearly one half of his song, and applies to notes of an entirely different and *canary-like* character (see notations of the Vesper).

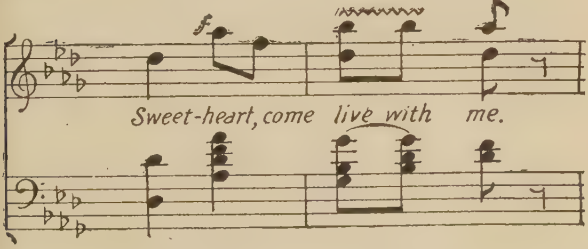
The music of the White-crown is very easily recorded, there is nothing dubious about his tones or his intervals; he may flat, or even sharp some particularly high note, but there is no question about what he is *trying* to do; his ideal is a group of clear, unhurried tones with pleasing intervals like those in the first lines of the hymn:



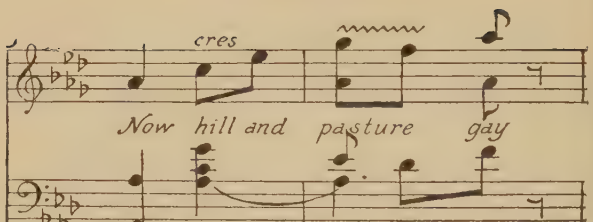
That is the *musical form*, but his melody is a bit different, not to speak of the character of the sentiment, which can not for a moment be questioned :



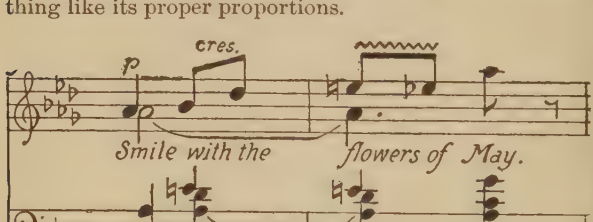
It is a short song but it is sung with feeling, and without the piquant anxiety of the Rose-breasted Grosbeak, or the nervous fluster of the Robin ; there is something tranquil and soothing about it. He sings leisurely in a tree by the roadside, and waits long enough for an answer ; in another moment there comes a response from a neighboring tree, and White-crown number two continues the love song :



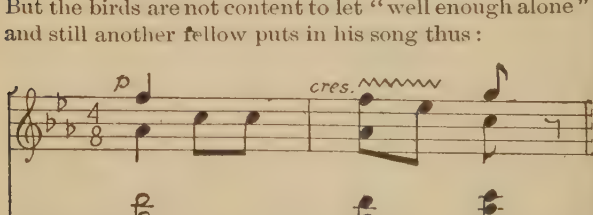
Then number three supplements the two foregoing songs by a marked variation :



And again a fourth bird rounds off the tune to something like its proper proportions.



But the birds are not content to let "well enough alone" and still another fellow puts in his song thus:



to prevent anything which might seem like a finale. For men and musicians may come and go with all their fine theories about cadences and cadenzas—what does the little bird know of these! His one idea is melody—unrestricted melody such as he is accustomed to hear in the songs of his associates; probably he does not suspect that these have been handed down to them through a

long line of ancestors, and that he will in turn hand down what he has learned to the generations of the future! Why, therefore, should a *finale* have any place in the bird's song?

The time for a study of the White-crown is short; he arrives from the south about the first week in May, and leaves for the north about two weeks later. He will not stop short of Labrador when he settles down for the summer, and we would have to go there to hear his song at its best.

White-throated Sparrow
Peabody-bird
Zonotrichia albicollis
L. 6.70 inches
April 25th, or all the year

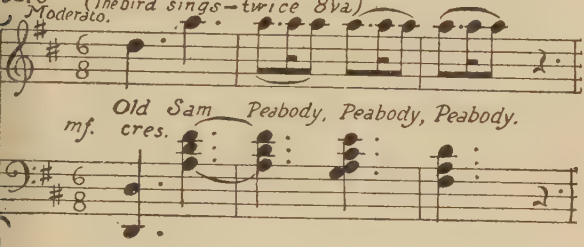
This handsomely attired Sparrow is one of the most distinguished members of the family. His familiar song is one of the best demonstrations of *mannerism* in the music of a given species which it is possible to find. When once the song is heard it is never forgotten, and anyone who can whistle can imitate it. The bird is clad in fine feathers although these are not of a brilliant type; his style is very similar to that of the White-crown, but his coloring is much browner. Head striped black and white, with the white in the centre of the crown and over each eye narrower than the black; in front of the eye and at the bend of the wing there is a patch of lemon yellow; back brown, streaked with black and buff; region over the tail grayer; tail gray-brown; wing coverts tipped with white which forms two distinct wing-bars on each wing; throat with a large, square, white patch; breast brownish gray fading to light white-gray on the under parts. Female similarly marked. Nest of grasses, rootlets, and plant fibre, lined with finer material of the same order: Egg bluish white, evenly and heavily speckled with various browns. This Sparrow has a broad range throughout eastern North America as far north as the fur countries, and breeds from northern Michigan to Maine (probably including northern Massachusetts); it winters from the latter State to Florida. The bird feeds upon seeds, berries, and a variety of insects.

The song of the Peabody-bird is remarkable for its rhythm, and its pure, clear-whistled tones. It would be

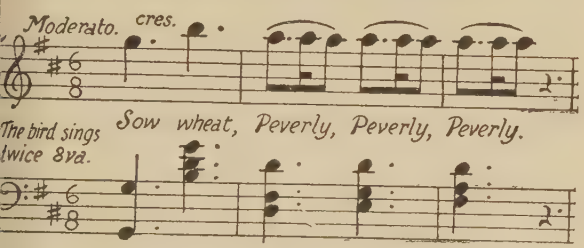
easily recognized by one a stranger to it but familiar with its various syllabic interpretations which are found in every book on birds. The commonest form of the song is written: *Old Sam Pea-body, Pea-body, Pea-body.** Another form runs, *Sow wheat Pe-ver-ly, Pe-ver-ly, Pe-ver-ly;* and yet another, *All day whit-tl-in', whit-tl-in', whit-tl-in';* and still another, *Oh hear me, Ther-esa, Ther-esa, Ther-esa;* and again another, *All day long fid-dle-in', fid-dle-in', fid-dle-in'*. This should be enough to impress one with the fact that the White-throat's song has a decidedly stereotyped character; but there is considerable variety in the little fellow's music, and it will soon be discovered that these syllables are only indicative of an unvarying rhythm. Of that mechanical form Mr. Cheney says, "The little twelve-toned melody of this Sparrow is a flash of inspiration—one of those lucky finds, such as poets have—the charm of which lies in its rhythm." Then he, a musician, adds what any *unmusical* person might have told us if he had only been sharp enough to think of it, "First come three long tones of equal length, forming together one half of the entire song; then three clusters of three short tones,

* In *Footing it in Franconia*, Mr. Bradford Torrey says, alluding, to the form of the song—"I was relieved to find all the Franconia White-throated Sparrows introducing their sets of triplets with two not three—longer single notes. That was how I had always whistled the tune; and I had been astonished and grieved to see it printed in musical notation by Mr. Cheney, and again by Mr. Chapman, with an introductory measure of three notes, as if it were to go 'Old Sam, Sam Peabody, Peabody, Peabody,' instead of as I remembered it, and as reason dictated, 'Old Sam Peabody Peabody, Peabody.' I am not intimating that Mr. Cheney and Mr. Chapman are wrong, but that my own recollection was right." Mr. Torrey is correct as far as he goes, but he does not go quite far enough. In the height of the nuptial season this Sparrow is very apt to extend his song, and in the fall season he invariably cuts it short (for an illustration of this last point, see Mr. Cheney's *Wood Notes Wild*, pg. 43). Also birds in different localities sing different forms of the song. In the southern Green Mountains, I have heard the three sustained notes distinctly sung; I have also three records taken in Campton (see my own records), twenty-four miles south of Franconia "as the crow flies." It is a fact, though, that the commonest form of the song is by far that with but two sustained notes—at least in the White Mountain district.

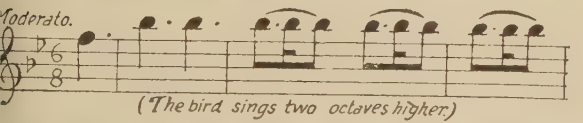
triplets, each cluster being equal to one of the long tones, and each of the short tones being equal to one third of one of the long tones." How plainly a series of dots illustrates this: . . . . . and how equally plain the rhythm appears on the musical staff!



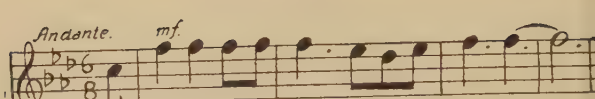
This song embraces an interval of a fifth; here is another which includes one of only a major third:



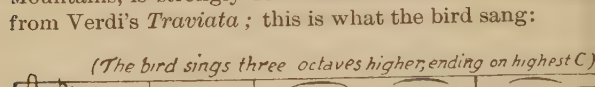
nd here is yet another confined to a fourth:



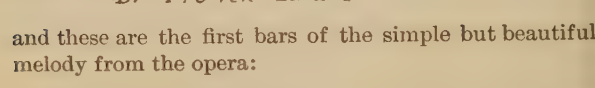
his is one of the commonest forms of melody which is mployed by all composers. It occurs, in the opening ar of the love-song sung by Turiddu before the curtain ses in *Cavalleria Rusticana:*



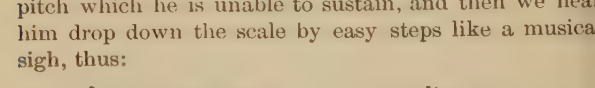
The similarity of this air to that which the White-throat sings is at once apparent. Another song with the interval of a fourth, which a bird gave me in the White Mountains, is strongly reminiscent of the Di Provenza from Verdi's *Traviata;* this is what the bird sang:



and these are the first bars of the simple but beautiful melody from the opera:

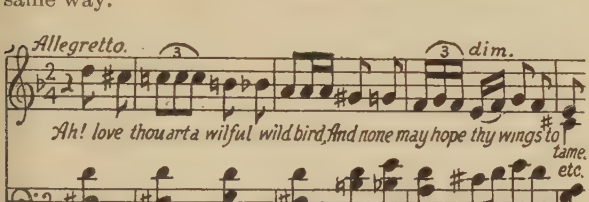


Certainly the resemblance between the two songs is striking. Occasionally White-throat attempts a high pitch which he is unable to sustain, and then we hear him drop down the scale by easy steps like a musical sigh, thus:



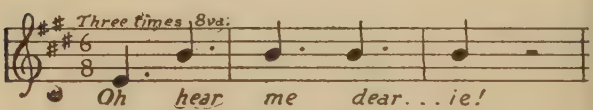
The tones of voice here express as much discouragement as the words which accompany them imply. There is a sort of "Heigh ho, fiddle-de-dee!" character to the music which makes one think the little bird looks upon life and its cares as a tough problem! That is not unlike the pessimistic sentiments expressed by Carmen when she appears in the first act of the Opera and sings that love is a wilful wild bird with whom it is dangerous to have an

dealings, and advises her admirers to let him alone! The music expresses all the discouragement which is embodied in the White-throat's song; observe how the tones drop down the chromatic scale in precisely the same way.

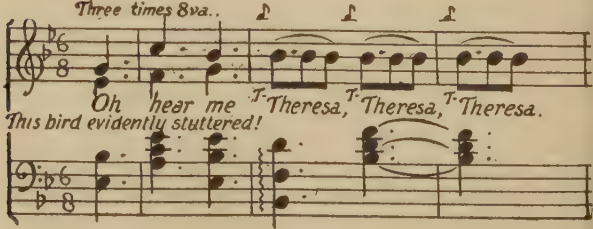


There is always that attractiveness of novelty in this Sparrow's music which enlists one's curiosity; the little fellow sings Carmen's song in Tuckerman's Ravine under the shadow of Mt. Washington, Turiddu's song under the brow of Mt. Tecumseh, and the Di Provenza from *Traviata*, in the Pemigewasset Valley. The question arises, what will he do next, somewhere else? Possibly he will choose still another interval for his whistle and advise that farmer "Peverly" to sow *rye!* In every instance, however, he will not depart from his own preconceived ideas of rhythm, which may or may not exactly correspond with some operatic air which has stuck in our own head. In the *History of North American Birds*, by Baird, Brewer, and Ridgway, I find this: "Notwithstanding the slighting manner in which the song of this bird is spoken of by some writers, in certain parts of the country its clear, prolonged, and peculiar whistle has given it quite a local fame and popularity. Among the White Mountains, where it breeds abundantly, it is known as the Peabody-bird, and its remarkably clear whistle resounds in all their glens and secluded recesses." That is a good summary of the popular esteem in which this bird is held. Dr. M. L. Leach has written an interesting account of the song of the White-throated Sparrow, in the course of which he says (alluding to the form already given in my records), "The arrangement

of musical sounds indicated . . . appears to constitute the most perfect and complete form of the song; but it is varied in different localities and by different performers, as if among birds of the same species there were different degrees of musical talent" (that is true, his surmise is correct) "and different fashions in musical education. In one place, where I had excellent opportunities to listen, the last three measures were seldom heard, or when heard, consisted each of a half-note. Of the first three half-notes, one or the other is sometimes omitted." Evidently Dr. Leach did not take into account the immature bird which sings the immature song—for we must not forget that every youthful bird has his lesson to learn, and it is learned more or less perfectly,—and the season of the year which has everything to do with the *form* of the song. In September and October, the bird pipes up again, but he rarely if ever finishes his song; also at this time there is a new singer or two just making his first essay at music. Again it has been my frequent experience that the song of the White-throat heard at a distance sounds this way:



the last three triplets being merged each into one tremulous but sustained tone. Also I have heard the bird sing within eight feet of my head and noticed an immensely high squeaky grace-note which introduced each group of triplets thus:



But it is well to note that none of these variations affects his unalterable rhythm.

White-throat is a perfect little curiosity-box! I have never yet failed to call him from a considerable distance, by imitating his song. In more than one instance it has been possible by this means to draw a dozen or more birds about me, all of whom were devoured with curiosity to find out why such a great hulking, wingless bird should be familiar with their own language! One could whistle all day to an Oriole, and it is doubtful whether he would pay the slightest attention.

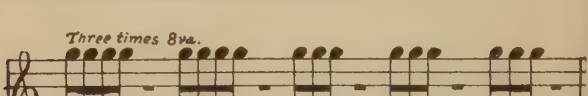
Chipping Sparrow
Chippy
Spizella socialis
L. 5.35 inches
April 20th

This common little Sparrow is esteemed more for his social disposition than his talent as a musician. As for his music, it scarcely deserves the name; it is too stridulent and monotonous to deserve attention. In appearance, too, the bird is very ordinary. Forehead black; crown chestnut red; back of the neck streaked with black; a conspicuous gray line runs over and back of the eye with a black line above and back of it; bill dark sepia; back striped with black, ruddy brown, and ochre; region above the tail gray; under parts ashen gray, the throat lighter; wing-bars very indistinct, the wings marked like the back. Female similarly colored. Nest of grasses, fine twigs, and rootlets, lined with numerous long hairs, and situated from five to six feet above the ground (sometimes nearly twenty) in a tree or bush, and quite often in an apple-tree. Egg blue-green, freckled with chestnut red and sepia. The range of this species is throughout eastern North America, and as far north as Great Slave Lake. It breeds throughout its range, and winters in the Gulf States and Mexico. Fully one third of its food consists of (injurious) insects, including many beetles and grasshoppers; the rest consists almost exclusively of seeds.

Chippy's song is pitched extremely high—somewhere in the octave just beyond highest C—so of musical tone it must be admitted he possesses very little or none at all. Undoubtedly most listeners would pronounce it a

monotonous trill, but as a matter of fact it is nothing of the kind! Chippy's tones may be monotonous, but they are not trilled. The bird simply reiterates with considerable rapidity *one tone*, thus:

A trill is distinctly a rapid alternation of *two* separate tones, and there is not a suspicion of that in the Chippy's song. On the contrary, it has not even the suppressed introductory grace-note of the noisy Flicker's monotonous performance! Yet Dr. Coues says of the bird—"He has at times a song quite different from the sharp, monotonous trill so characteristic of springtime." Now, we need not question the varied conditions of so limited a performance; they exist, but they are worth neither attention nor record. They simply consist of a series of rhythmic interruptions, like this:



The "trill," however, is a musical term employed without a full knowledge of its significance. Mr. Cheney, after quoting Dr. Coues's description of the song, remarks, "Without doubt he has" a different song, "but the monotonous 'trill' being a succession of rapid tones upon the same degree, can hardly be called a trill." That is a musician's verdict! Other authors make the same error in describing the song. Mr. J. B. Grant says—"His note is a trill of considerable duration, suggestive of the sound of the cicada."

The Chipping Sparrow has a most friendly nature and not infrequently he hops within the bounds of the doorsill for any proffered bread crumbs or other food. His nest is quite often lodged in the vines of the piazza trellis, and it is a common thing for him to awake in

Field Sparrow Chipping Sparrow

the middle of the night and give voice to a few rapid measures, which comes to one's ears—to use Nuttall's expression—like the reverie of a dream. But it is a habit of many birds, especially the Sparrows, to sing in the night.

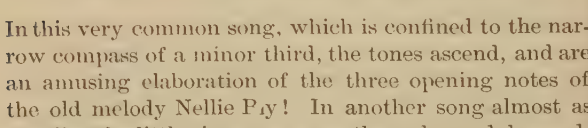
Field Sparrow
Spizella pusilla
L. 5.55 inches
May 1st

This familiar bird of the rugged pasture or fen is wrongly named; he is not really a *Field* Sparrow. He may frequent an old worn-out field, but the cultivated one is not his choice. He likes a spot more or less overgrown with weeds and bushes, and from thence usually comes his rather plaintive song. His appearance is not a distinguished one. Head decidedly red-brown with a gray line over the eye; sides of face, back of the neck, and the throat ashen gray; back ruddy brown streaked with black and light brownish gray; rump ash gray; two small whitish wing-bars on each wing; lower parts white washed with buff or ochre; buff on the breast and sides; bill conspicuously flesh-color of a ruddy tone; it is one of the best marks for the bird's identification. The nest is on the ground or in a low bush and is similar to that of the Song Sparrow. The egg is white-blue strongly marked at the larger end with cinnamon or sepia brown. This species breeds from South Carolina and southern Kansas northward.

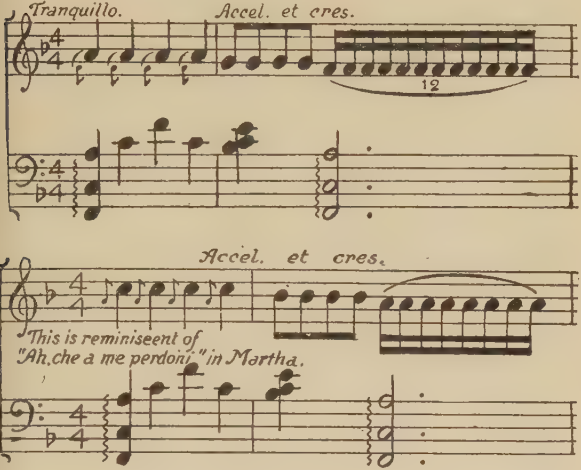
The Field Sparrow is a gentle little creature whose unsophisticated character and expressive song have won for him a high place in the estimation of all bird-lovers. Only Wilson seems to have failed in properly understanding the bird, for he writes, "It is more frequently found in the middle of fields and orchards than any of the other species, which usually lurk along hedgerows. It has no song, but a kind of chirruping not much different from the chirpings of a cricket." Now the last place to which I should go for the study of this Sparrow would be the meadow or the orchard, and I certainly should not think of comparing his song with the chirping of a cricket! Experience and opinion apparently differ not a little, for my best opportunity of hearing many Field Sparrows singing together has always been

on the rugged ground of the Middlesex Fells, near Boston, and anyone with a knowledge of music would unquestionably pronounce the song of this species one of the best melodic demonstrations of a combined *accelerando* and *crescendo* which an exacting ear could demand. Minot seems to have held a good opinion of the song, for he says it opens with "a few exquisitely modulated whistles, each higher and a little louder than the preceding, and closes with a sweet trill. But a musician's opinion is nearer to the truth, and we cannot improve on the following one by Mr. Cheney, who writes, "Scarcely anything in rhythmics and dynamics is more difficult than to give a perfect *accelerando* and *crescendo*; and the use of the chromatic scale by which the Field Sparrow rises in his lyric flight involves the very pith of melodic ability. This little musician has explored the whole realm of sound, and condensed its beauties in perfection into one short song." Minot's description of the music (as has already been pointed out by Mr. Cheney) is not quite correct; there are no modulations of the opening "whistles," they are all on the same pitch; and only the middle tones rise or fall, as the case may be, progressing to a final so-called trill, thus:

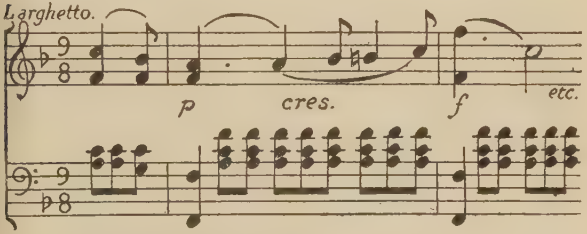
In this very common song, which is confined to the narrow compass of a minor third, the tones ascend, and are an amusing elaboration of the three opening notes of the old melody Nellie Bly! In another song almost as familiar the little singer reverses the order and descends the scale:



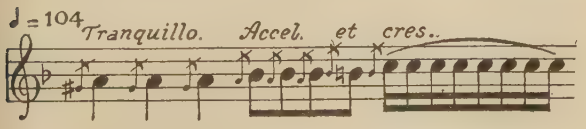
and in still another he proceeds on the diatonic instead of the chromatic scale, thus:



and reminds us of the opening notes of the chorus in *Martha*, beginning,

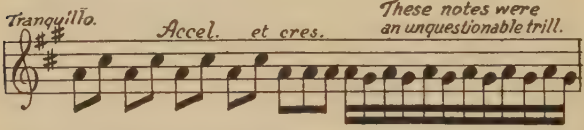


Nor is this all the Field Sparrow can do. He frequently gives us a perfect example of what the music teacher would call the *acciaccatura*,* a succession of grace notes, thus:

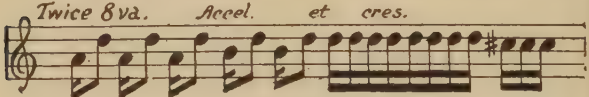


* Pronounced at-tchack-a-too-ra.

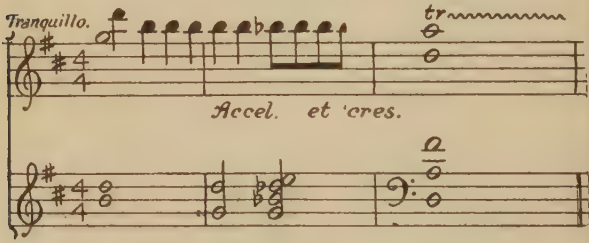
He is by no means confined to a half-tone grace-note either, nor is he unmindful of a certain pleasing variety in tones, as the following will show:



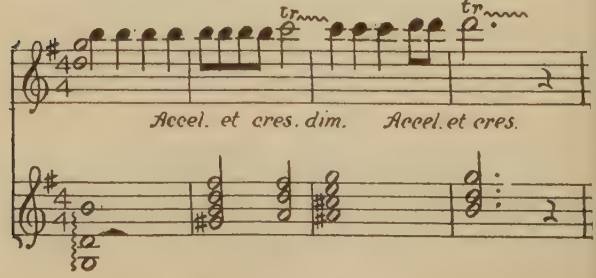
This is a bit I got on June 11th, in a pasture of Campton and the next came from the same place on July 24th.



Again, the little musician once in a while attempts a sustained tone and then proceeds with his customary *accelerando* on a lower tone, thus:



The variety of tones may be very considerable, but there is absolutely no exception to the rule that the time is accelerated and the volume of sound increased as the song proceeds; only occasionally the song is doubled thus:



Mr. Chapman recognizes the fact that the song has many variations besides possessing the rare beauty of perfect sweetness, and his opinion is well worth quoting. "His song is in keeping with his character, being an unusually clear, plaintive whistle, sweeter to the lover of birds' songs than the voice of the most gifted songstress" (one can not quite agree with that who has heard the great artist Marcella Sembrich sing!) "Not only do the same individuals sing several different songs, but two individuals in the same locality rarely sing alike. There is also much variation in the songs of birds from different regions . . . . to be convinced of its" (the song's) "rare beauty one need only hear it as the sun goes down and the hush of early evening is quieting the earth." That is so well said that I need add nothing further except the suggestion that the Field Sparrow is certainly Nature's best exponent of the principle of Plain-Song, i. e. the Chant. One need not for a moment suppose it is necessary to have a wide range of voice and sing a catching tune to creditably produce a *song*. No, music is the artistic expression of thought and character, and for that reason and none other the pathetic monotones of the Field Sparrow charm us; we do not care whether he sings a *tune* or not, he may keep straight along on one note * or not as he chooses, we are satisfied to know that he sings with a depth of expression unsurpassed by any of Nature's greatest songsters. There is a certain reverential character to his song, too, which is reminiscent of one of the Psalms of David chanted by the church choir, but it needs a slight alteration to express the sentiment of the Sparrow:

> O be joyful in the Lord all day long,
> And come before his presence with a song.

When the shadows lengthen into irregular blotches of misty lilac on the slopes of the stony pasture and the light has turned golden in the west, somewhere in the tangle of blackberry briers not far away there is a modest singer filling the silent air with the sober mono-

* Mr. Bradford Torrey in his *Birds in the Bush* thinks that he does; see page 40 of that delightful little book.

tones of a vesper hymn. It is the Field Sparrow, and possibly he is singing—who shall say that he is not?

"Softly now the light of day
Fades upon my sight away."

Junco Snowbird
Junco hyemalis
L. 6.25 inches
October 1st to May 20th

The Junco is a winter visitor who prolongs his stay in the White Mountain district until the end of spring. He may be seen on Mt. Washington on the first of September, and in Campton as late as the end of May. He is a bird of stylish appearance and good form. Head, neck, and back Payne's gray, or a deep bluish slate-gray; this color extends over the chest; below it there is a clear white; the sides are grayish; there are no wing-bars; tail a gray-brown, the *two outer feathers white* like those of the Vesper Sparrow, and the adjoining feathers partly white. Female similarly colored but lighter in tone. Nest of grasses, moss, and rootlets, loosely interwoven, and placed on the ground (or near it) in some brushwood or upturned tree-roots. Egg white, speckled with madder or red-brown. The range of this bird is from northern New York and New England northward, and southward along the Alleghany Mountains to Virginia. It winters throughout the eastern United States, as far southward as Georgia and possibly the Gulf States.

The Junco is not a musician; he has no song which can compare with that of the rather sentimental Field Sparrow, and nothing which can be called a trill in a correct sense of the word. His is a performance similar to the stridulous one of the Chippy, but decidedly more musical, having a sweet and clear tone with a perceptible variation (hardly the warble which some authors claim) which is rather softly delivered. His call-note is a short, sharp *'tsip.* I have taken no record of the song, so must be content to describe it as a high-pitched interrupted whistle with but slight variations. This bird flees southward as the winter's storms arrive, not to escape the cold winds and the driving snow, but to secure food. The species is an eminently social one, the birds always flying in flocks, and seldom if ever separating into small

Indigo Bunting

Junco

groups of three or four; they have a special liking for the roadside. Mr. Ned Dearborn reports having seen three "sports" of this species, all similar, having heads and necks partly white.

Song Sparrow
Melospiza cineria melodia
L. 6.35 inches
All the year

The Song Sparrow is the flower of his family, a musician of exceptional ability, and the possessor of a character remarkable for its cheerfulness under all conditions of weather. But in appearance he is one who could never take the prize in a Bird Show! It is true his spots betoken a "marked" appearance, but the marks are not distinguished ones; his qualities surpass his charms. Head ruddy brown with a suggestion of a median gray line; the region of the eye gray tinged with brown; a red-brown line behind the eye; back light brown streaked with darker brown; sides of the light gray throat marked with a chain of blackish or dark brown spots; no wing-bars; breast spotted with wedge-shaped streaks of sepia and red-brown some of which are confluent in the central region forming a distinct dark blotch; under parts almost white. The sexes are similarly marked. The loosely built nest is formed of dried rootlets and leaves, shreds of bark, coarse grasses, and sometimes hair; within it is lined with similar but softer material; it is usually found on the ground, or sometimes low down in a bush. The egg is blue-white and generously splashed with brown. This Sparrow is common everywhere and breeds from Virginia northward.

Mr. Chapman sums up the estimable qualities of the interesting, cheery little songster as follows: "its readiness to adapt itself to the different conditions in each of the regions it inhabits, its numerical abundance and steady increase while some of its family are dying out, its freedom from disease and vermin, and its perennial good spirits evidenced by its never-failing music—all proclaim that it is indeed one of Nature's successes." That is an ornithologist's estimate of this greatly favored Sparrow, and certainly we ought to be very grateful for the facts, as this is the bird that sings best of all—sings

under all conditions of weather, at all times of the day (and sometimes at night), in every month of the year, and with the cleverest understanding of melody. He is also one of the very few birds who is able to sing half a dozen songs each of which is constructively different from the other. The Thrushes are far more gifted musicians, but they lack the versatility of the Song Sparrow.

As a general rule the little fellow comes to us in March, and leaves about the first of November, but there are many individuals which stay all the year around. He is not quite as sociable as the Chipping Sparrow, for he makes his home on the meadow that slopes toward the river rather than in the shrubbery that lines the roadside; nevertheless he is one of the most frequent visitors of the spreading lawns that surround our country homes, and he is a familiar occupant of every bush that is planted in the neighborhood.

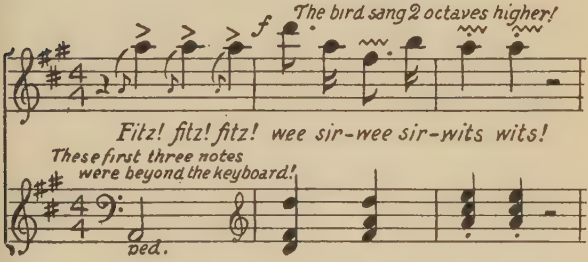
Presumably every one knows his call-note—a metallic chip; but through sheer multiplicity of motive, I suspect his *song* is not always distinguished with perfect certainty, especially as it often develops a distinctly local character. For instance, the Song Sparrows of Nantucket apparently sing with higher-pitched voices, more overtones, and less regard for the usual accented opening notes, than do those of the White Mountain region. The birds about New York, on the other hand, accent the first few notes and then often ripple along in canarylike trills. But I do not regard these differences as permanent; the fundamental character of the music is never changed, it is apparent in a series of accented, sustained tones (generally three) at the beginning, the middle, or the end of the song, but usually at the beginning, a rapid succession of about six notes—or better, a tone interrupted a number of times, a *group* of tones separated by well-preserved intervals, and the contrastive coloring here and there of a distinct overtone. These signs represent but *one* form: — —— . — . . . . . (see the notation with words "Welcome to Campton's," etc.). It is evident, therefore, that mechanical rhythm in the case of this bird's song is no strong factor in its

Song Sparrow

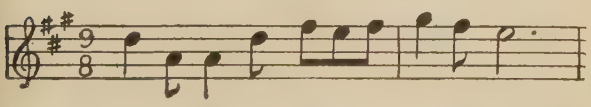
Swamp Sparrow

identification, it is too variable to be depended upon. One song is likely to be in two-four and another in three-four time, and the listener is compelled, rather, to listen to those striking mannerisms of the singer, which will none the less surely reveal his identity.

Now the style of the Song Sparrow is unmistakably evident, he devotes himself to pure, simple melody, and is in consequence the best exponent of the *song motive* among all the members of the feathered tribe. The Oriole may sometimes equal, but he can never excel him in this respect; moreover, the Oriole lacks versatility. It is short work to make such a statement, but it takes a month's study of the Song Sparrow to establish the fact beyond peradventure and produce a sufficient number of incontestable proofs. Here is the song of a bird who, like the rest of his tribe, knows all about the dotted note which adds half again to its value:

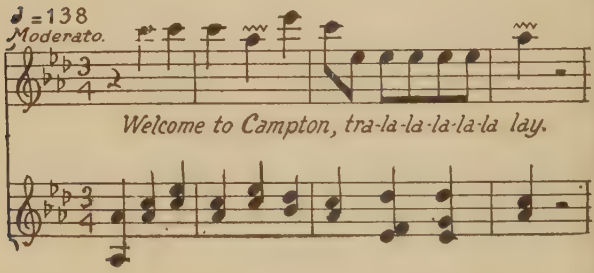

The bird sang 2 octaves higher!
Fitz! fitz! fitz! wee sir-wee sir-wits wits!
These first three notes were beyond the keyboard!
ped.

There are swing and accent to these few tones which perfectly express an exultant feeling, something akin to that so eloquently given in the first bars of Siegmund's Love Song in the *Nibelungen Lied:*

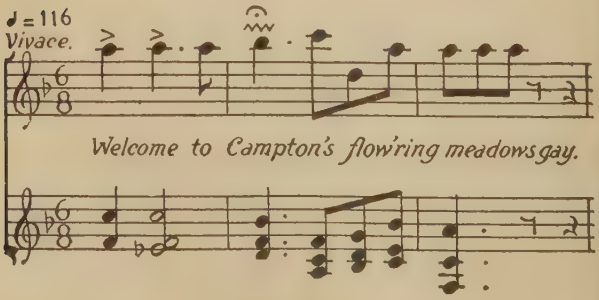


To be sure I enlarge the musical significance of the Sparrow's song by setting it to a piano accompaniment,

but I question whether it is possible to recognize the value of the melody without the setting. Notice how much of the expression is dependent upon those *accented first notes*, and how the mannerism distinguishes the singer, for nearly every Song Sparrow one hears seems to stand by the rule! It is unnecessary to produce a miscellaneous selection of this bird's music to prove that his ideas of melody are unlimited, anybody with a keen ear will discover that fact after a day in his company. What is more interesting is his versatility in handling a motive. A few seasons ago I was greeted in my summer home by the following:

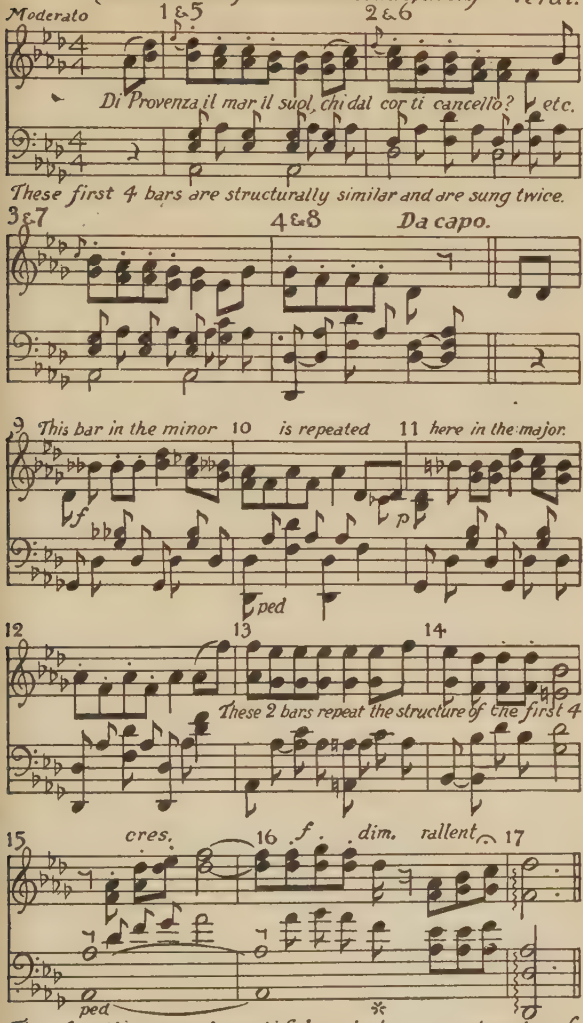


The little fellow showed unusual talent, and this bit seemed decidedly melodic. I waited for more; it came next in this form:



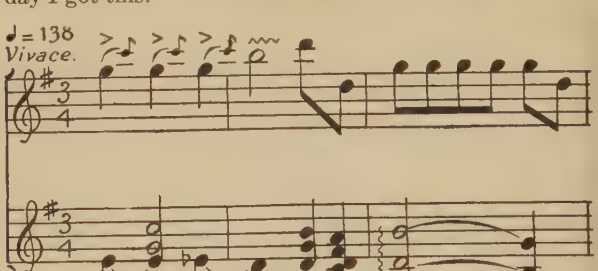
"DI PROVENZA IL MAR" - TRAVIATA.

(See also music of the White-throated Sparrow) Verdi.

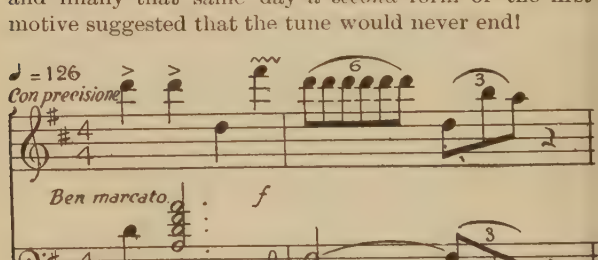


This familiar and beautiful melody is a network of repetitions: the initial motive is varied very slightly and of the 17 bars only 8 possess a distinct individuality

Then I decided the incident was closed; but no, another day I got this:



and finally that same day a *second* form of the first motive suggested that the tune would never end!

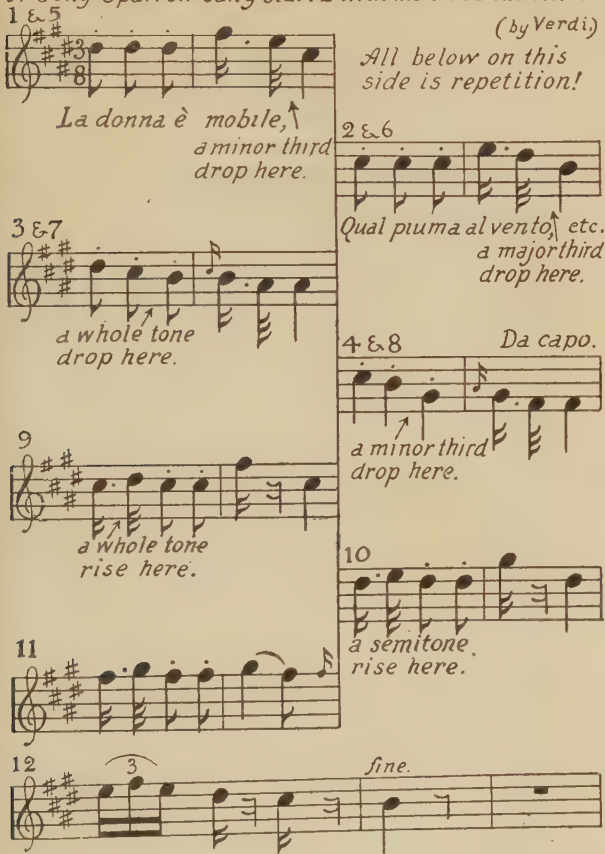


There was no doubt about all this coming from a single individual; I had my eye on him, and kept track of all his movements. The variations of a single motive in song are very subtle, and we usually fail to discover the ingenuity of the composer who constructs an extensive melody of but one or two simple motives. This is perfectly illustrated in the Di Provenza from Verdi's *Traviata*. (See previous page.)

It is a network of repetitions throughout; remove the first motive with its variations and the aria is pretty nearly all gone! A similar illustration serves us in "La Donna è mobile" from Verdi's *Rigoletto*. (See page 115.) Remove the first, third, and ninth bars and nothing is left but their variations and the closing bar! Strangely

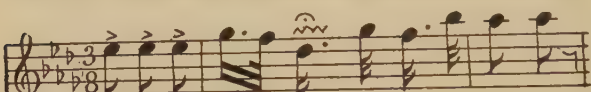
"LA DONNA È MOBILE"-RIGOLETTO.

A Song Sparrow sang stave 2 with his own additions!



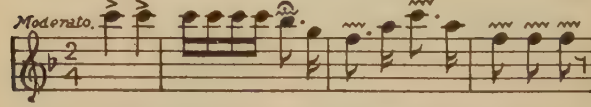
This familiar melody is a fabric of repetitions. Staves 1 & 5 etc. are identical; stave 1 differs only slightly from stave 2; stave 3 only slightly from stave 4; staves 1 to 4 are simply repeated; stave 9 differs only slightly from stave 10, and stave 11 is not essentially different from either; stave 12 merely finishing the tune, resembles the others!

enough, too, this last melody begins with three accented notes in a way remarkably like the Sparrow's song; indeed, on one occasion I heard the second bar given *note for note* exactly as it occurs in Verdi's tune, but the little bird had tacked on a finale or cadenza all his own:



A suggestion of Rigoletto.

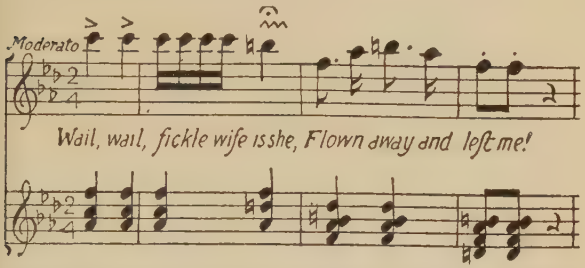
He had a mind above such a commonplace thing as an operatic score! But we have not yet measured the scope or the character of the little musician's repertoire. He has the ability to render a motive in both the major and the minor keys, just exactly as Verdi has done in the ninth and eleventh bars of the Di Provenza (be sure to read them). I had grown quite familiar with a bit of melody coming from a bird nesting near my boat-landing on the river, which ran thus:



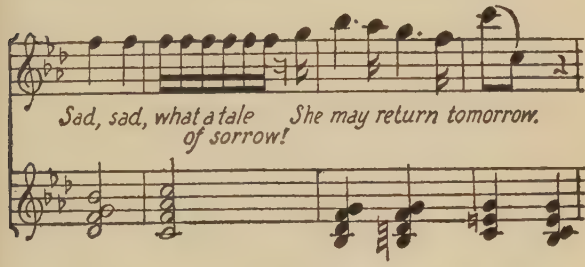
(I must admit the *words* in the arrangements which follow are drawn from the imagination.) But before long there came a day when the sun refused to shine, and the clouds hung dull and gray over the river meadow. I was at work on the piazza next my studio listening, as usual, to the sparrows, when a pathetic strain caught my ear from the direction of the boat-landing; it was the same familiar melody, but strangely enough rendered in the *minor* key. What did that mean? Was it the same bird or another? I dropped my paint-brush, seized my opera-glass, and ran down on the meadow to investigate. Yes, there was the bird in his customary position on the top twig of the bush *next* * to the one in which his mate had built a nest not far from the ground. Then I looked for the nest; it was there, too, but there was no *mate*. "Ah-ha!" I said to myself, "a case of domestic

* He wisely refrained from singing in the same bush which contained the nest, for that might lead to discovery.

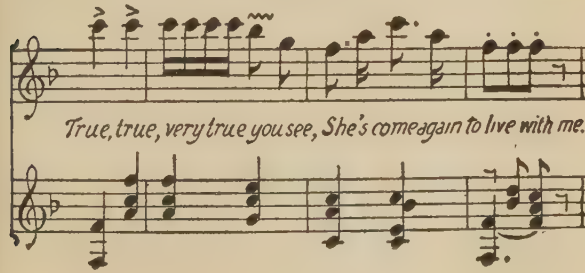
infelicity"; so when the little fellow wiped his bill on the twig, and sang again the doleful strain, I fitted, in imagination, these words to it:



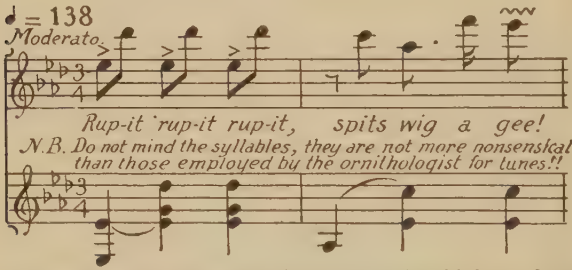
then, taking my cue from another singer, I whistled a reply as follows,



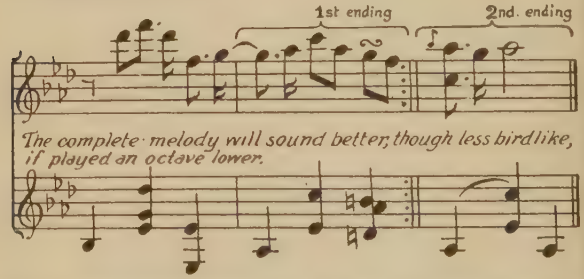
and went back to my neglected paint-brush; and sure enough on the following day, which dawned bright and clear, up from the meadow came the happier strain in the major key, with the welcome news,—



So I knew everything was all right down there and did not take the trouble to go and see! Nonsense,—all this, every one will of course say! But what about that melody in both the major and minor keys! *That remains a remarkable fact.* Again, how another little bird gave me a fragment of a Chopinlike mazourka, is worth the telling. The motive was suggestive of something more which I never got; it ran thus:

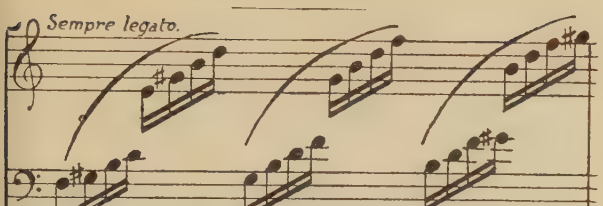

♩ = 138
Moderato.
Rup-it 'rup-it rup-it, spits wig a gee!
N.B. Do not mind the syllables, they are not more nonsensical than those employed by the ornithologist for tunes!!

and that was very aggravating, for it should have been rounded off thus:

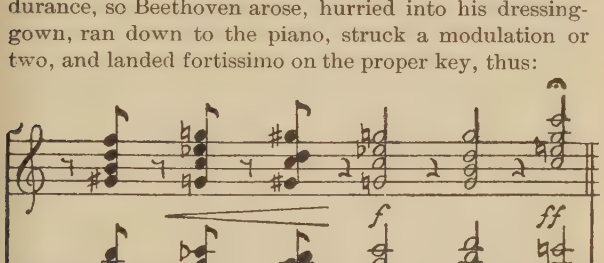


But it never *was* rounded off, so I had to accept the fact that even the Song Sparrow does not always know how to finish a thing.

There is a very good story told of Beethoven, I believe, which illustrates, in an amusing way, the annoyance of a "tie-up" in music. The good old master had gone to bed and was tossing restlessly on his pillow, because his nephew Carl, downstairs, was repeatedly practising what a musician would call a harmony in suspension; something which goes like this:



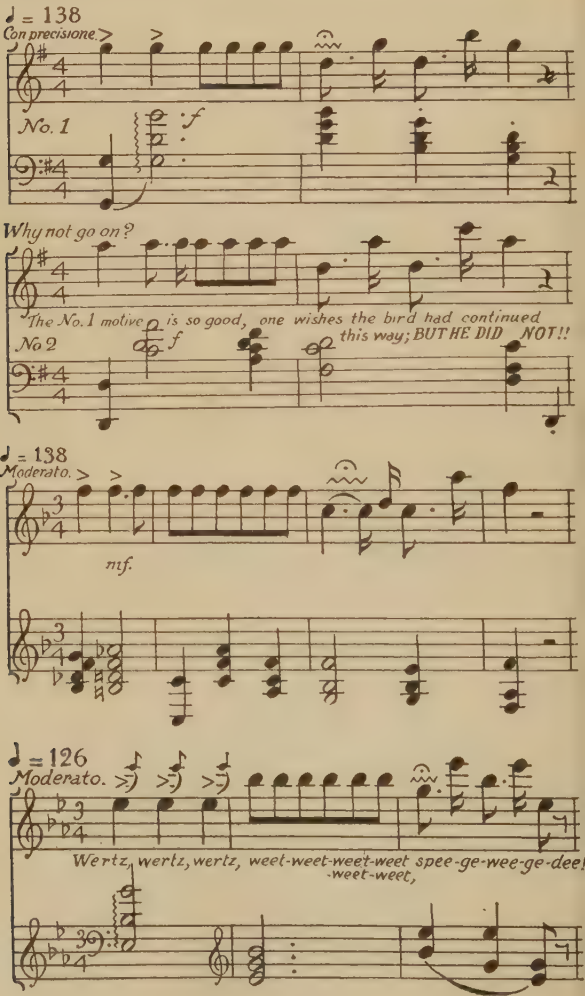
After a while poor Beethoven, who could not stand that sort of thing indefinitely, shouted down to his pupil, "Carl, give us the resolution." But Carl misunderstood the command, thought he was told to stop, and went to bed leaving the tones "hung up." That was beyond endurance, so Beethoven arose, hurried into his dressing-gown, ran down to the piano, struck a modulation or two, and landed fortissimo on the proper key, thus:



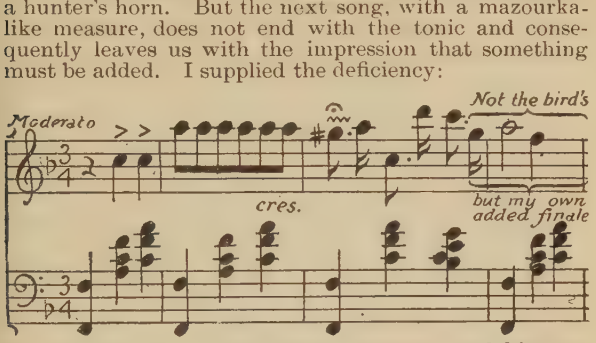
That settled it, he could now go to bed and sleep peacefully!

This suspension or incompletion of a musical idea is what we are always regretfully discovering in a bird's song, and the attempt to find a finish anywhere usually results in failure unless we piece two tunes together. The little songster's conception of music is limited to the abstract. What should he know about a finish? His song is an overflow of good spirits, and you must chop off his head if you seek a *finale*. His song is simply a bit of untrammelled self-expression that goes on like Tennyson's brook, notwithstanding human rules about "resolutions" and "finales." But it is a fact that the Song Sparrow is often an exception to the rule; he is a

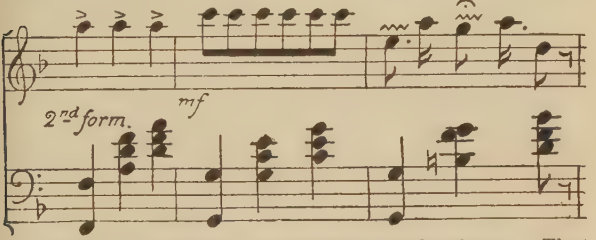
bird of parts, and the songster above all others most likely to end his tune upon the tonic. Here are three striking proofs (all from one individual) of his ability in this direction:



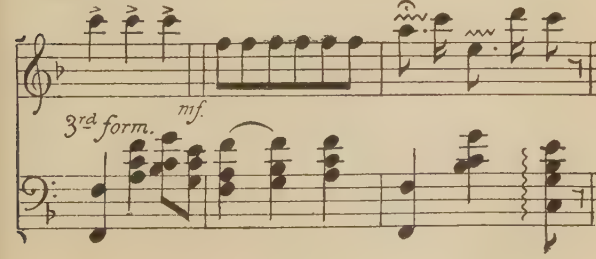
All of these are somewhat reminiscent of the winding of a hunter's horn. But the next song, with a mazourka-like measure, does not end with the tonic and consequently leaves us with the impression that something must be added. I supplied the deficiency:



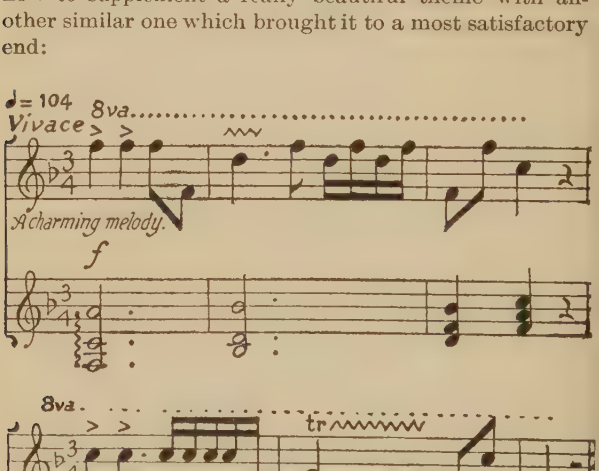
The bird that sang this melody, however, had his own ideas about the tune, and it appears my addition was premature, for after a few days' acquaintance with him I heard him sing this,



which was certainly a continuation of the theme. That being the case I listened for more; the wait was no longer than the greater part of the morning, when to my surprise he suddenly abandoned both familiar forms and switched off on a new one which, musically speaking, "landed" nowhere!

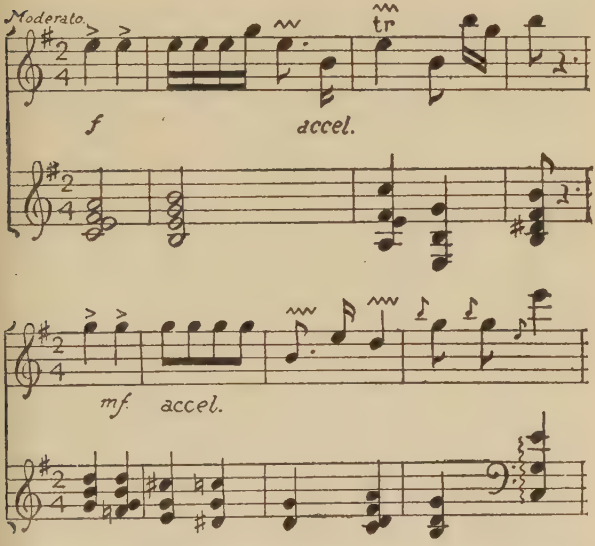


Here was a case of suspension indeed, and as the problem seemed too difficult for either the bird or me to solve, I concluded to place it in this book with the hope that it might meet the eye of a musician who would piece the fragments together and arrive at some logical conclusion. For aught I know to the contrary that bird to this very day may be trying every possible key in a vain search for a finale! But the Song Sparrow is not always unsatisfying in the matter of a conclusion, for here is a double record obtained from a little fellow who knew how to supplement a really beautiful theme with another similar one which brought it to a most satisfactory end:



But it would not be appropriate for me to close my records of this delightful songster with a *finished* tune. It is logical therefore to return to the melody in suspension, and add the two following brilliant songs, both of which came from a bird in the Arnold Arboretum, near

Boston, not less than two hundred miles away from the other singers whose music is recorded above.



Mr. Torrey, in that delightful little volume entitled *Footing it in Franconia*, makes a comparison of the music of the Song and Vesper Sparrows as follows: "Now a Song Sparrow breaks out in his breezy, characteristically abrupt manner. He is a bird with fine gifts of cheeriness and versatility; but when he sets himself against the Vesper, as now, it is like prose against poetry, plain talk against music. So it seems to me at this moment, I mean to say. At another time, in another mood, I might tone down the comparison, though I could never say less than that the Vesper is my favorite. His gifts are sweetness and perfection."

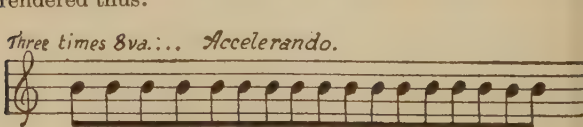
But I am disposed to believe that every one who will study the music of the Song Sparrow long enough will inevitably come to the conclusion that he is Nature's cleverest song genius. Indeed, in justification of such belief, I have only to call attention again to the extraordinary

melodic value of the songs above recorded and say to the one still unconvinced "Match these if you can!"

Swamp Sparrow
Melospiza georgiana
L. 5.85 inches
April 10th, or all the year

In appearance the Swamp Sparrow resembles the Chippy, but he is a trifle larger, and his coloring is not quite the same. Crown chestnut or Venetian red, forehead black; a gray stripe over the eye and a sepia line back of it; neck below the crown ashen gray slightly striped with sepia; back ruddy brown with black and ochre or buff streaks; throat dull white toned to light gray on the breast; sides gray brown; under parts dull white; wing coverts ruddy brown; tail gray-brown. Female similarly marked. Nest built on the ground, and similar to that of the Song Sparrow. Egg also similar to that of the Song Sparrow, but more heavily marked. This bird is common on wet meadows, in the thickets of marshes, and on the margins of streams bordered with cat-tails or reeds. It is distributed throughout eastern North America. Not infrequently it winters in Massachusetts, or the States farther south.

This Sparrow is rarely seen beyond his chosen retreat; he is a persistent skulker among the thickets of the swamp or the borders of the wet meadow, and, as a consequence, his song is scarcely as common as the monotonous one of the Chippy which it resembles. But there is a distinct difference between the voice of this bird and that of the Chippy; as a *monotone* it may be considered a trifle more musical, and nearer related to the voice of the Field Sparrow; but it certainly lacks the sweetness of tone which characterizes the music of the latter bird, and it is equally certain it is pitched lower than the stridulous effort of the Chippy. The song scarcely deserves a record, yet it could be adequately rendered thus:



It possesses a very perceptible *accelerando*. Perhaps I should say it generally finishes with a trill, but I have been unable to discover any approach to the two tones which *necessarily* constitute the trill. Nuttall, however, seems to think the song is made up of "a few trilling, rather monotonous notes resembling the song of the Field Sparrow," and he is not so very far away from the truth.

Chewink
Towhee
Pipilo erythrophthalmus
L. 8.35 inches
April 30th

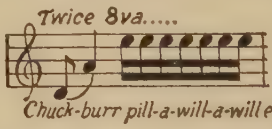
This bird is one of the most vivacious and beautiful members of the Finch Family. His black back, white breast and chestnut sides form an uncommon and striking combination of color at once æsthetic and distinguished. Beside the Chewink his near relative, the Song Sparrow is a very ordinary and insignificant-appearing individual. The upper parts of the Chewink, including head, chest, wings, and tail, are a glossy black; outer edges of the primaries white; white also begins at the middle of the chest and extends downward throughout the under parts; sides a bright chestnut red—almost a pure Venetian red; the iris red, and pupil black. Female with the same color-pattern, but the black replaced by lightish brown, the sides a less brilliant chestnut, and the tail an umber brown. Nest built of dried leaves, grasses, and plant fibre, lined with finer grasses; it is generally placed on the ground, or very near it. Egg white flecked with madder brown. The bird is common throughout eastern North America, though somewhat locally distributed. There are very few in Campton, N. H., plenty on the slopes of Monadnock, in southern New Hampshire, near the summer residence of Mr. G. B. Upton, and extremely few in the recesses of the White Mountains.

As a musician the Chewink is not remarkable for melodic ability or for brilliant execution; in these respects he differs widely from both Song Sparrow and Wood Thrush. Either of these two talented singers can not fail to impress upon the hearer a sense of the beauty of melody rendered by the mellow whistle of a bird; but the efforts of the Chewink are amateurish in comparison,

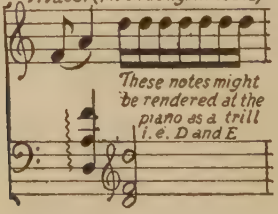
and one is surprised to find his song limited to a promising but exceedingly short beginning; nothing more seems to follow! There is an attempt at melody and a failure to realize it. The common form of the song may be represented by dots, thus:

. . . . . .

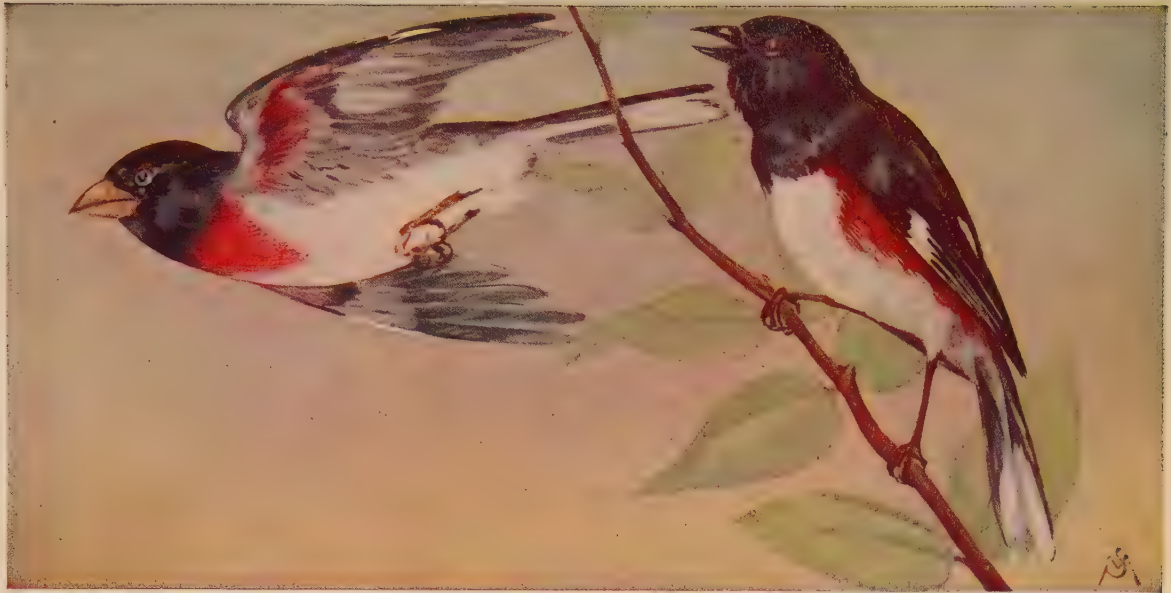
Ernest E. Thompson writes it, *chuck-burr, pill-a-will-a-will-a-will*, which is a very fair representation of the notes providing one is told that the bird rapidly progresses upward with clear whistled tones, first a fifth, and then about a fourth, so the whole compass covers approximately a jump of nine tones, or just one tone over an octave. This, however, would be the form of but one song, whether it is called common or not.



Somehow or other these particular tones remind one of the violinist trying his violin, and one naturally waits for the bird to begin the real song—but he never does! Here is another form with a lesser jump—the first interval *a third*, and the second, *a fourth*—which is certainly more satisfactory to the ear:

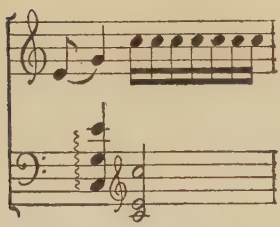


And here is again very nearly the same form dropped a full tone:

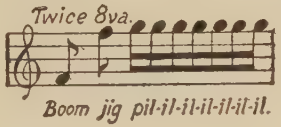


Rose-breasted Grosbeak

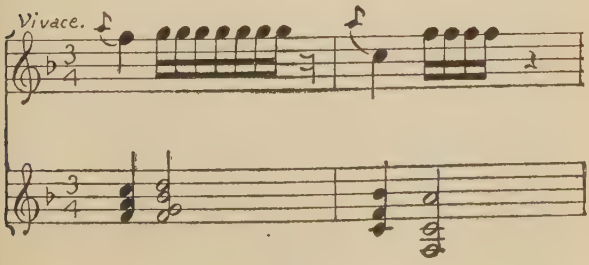
Chewink



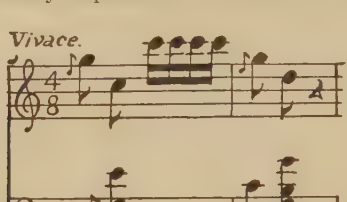
I obtained both songs in Dublin, N. H.; they came from the vicinity of the same field where many birds were singing, and each was an evident and quick response to the other. As one may well imagine the antiphonal effect was delightfully pleasing. Frequently the Chewink strikes a perfect octave with two notes of *equal* value, thus:



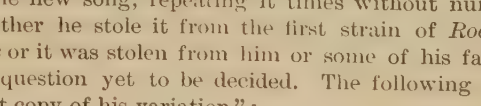
His intervals, as a rule, are eminently satisfactory, and one only regrets that after so fine a start the little fellow does not accomplish something more extensive in the line of melody; but it is rarely the case that his song comprises more than three notes; if it does, the chances are, that he has doubled-up on form. Here is a proof of that point; the record was obtained in the Arnold Arboretum, near Boston.



The next is also from the same place, and shows that the bird occasionally stops short of the final so-called trill:

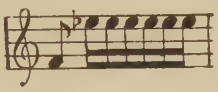


I should say at once in reference to the term *trill*, that in my estimation the Chewink rapidly repeats one tone and does *not* actually trill. Mr. Cheney evidently thought otherwise, for all his records of this bird's music show two alternating tones for the final note; but I think a close study of the song will convince the listener that this is unquestionably composed of a single tone rapidly reiterated. There are undoubtedly many variations of the Chewink's song, and it is not impossible that some birds may trill, just as others may adopt for a time some unusual form, in proof of which Mr. Cheney remarks: "This bird, like many others, can extemporize finely when the spirit moves him. For several successive days, one season, a Chewink gave me very interesting exhibitions of the kind. He fairly revelled in the new song, repeating it times without number. Whether he stole it from the first strain of *Rock of Ages* or it was stolen from him or some of his family, is a question yet to be decided. The following is an exact copy of his variation":

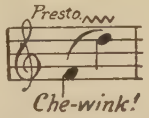


The Chewink is distinctively a ground bird, and consequently one whose song will be heard issuing from the shrubbery more frequently than from the topmost twig

of a tree. The last, however, is not an uncommon position for him, and I recollect being greatly puzzled by an eccentric form of his song coming from the very top of a giant oak on or near the estate of Mr. A. Hemenway, near the Blue Hills, Mass. It was the first time I had heard the song composed of a single sustained tone and the so-called trill.



His common call, *chewink*, certainly should be recognized by every one; it is composed of two distinct tones rapidly whistled, with a rising inflection approximately covering a sixth, and characterized by an overtone which I have already explained is best imitated by humming and whistling simultaneously.



This large and bustling Finch is famous for his devotion to the leaf-strewn ground beneath thickets and brush-heaps; there he will be found in spring grubbing with an intensity of purpose only equalled by the Fox Sparrow or the itinerant hen! An ornithological friend told me he once saw an energetic Fox Sparrow scratching with both feet *in concert*, not alternately after the manner of the slow barn fowl!

Rose-breasted Grosbeak
Zamelodia ludoviciana
L. 8.10 inches
May 12th

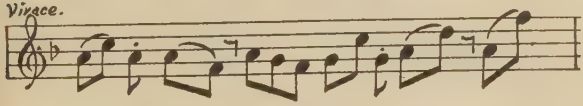
The charming Rose-breasted Grosbeak resplendent in his striking costume of black, white, and crimson, is one of the sweetest singers in this part of our country. He is a robust fellow with an overlarge, parrotlike, yellow ivory-colored bill, a somewhat nervous, restless temperament, and a special penchant for the trees of the orchard or grove. He is not as common as he ought to be, which is in part, at least, due to

his brilliant feathers. Mr. F. E. L. Beal writes: "On account of this attractive plumage the birds are highly prized for ladies' hats, and consequently have been shot in season and out, till the wonder is not that there are so few, but that any remain at all." Head, throat, and upper parts jet black; breast marked with a triangle (point down) of rose-red, or deep rose madder, which color extends beneath the wings over the under coverts, and rarely down the centre of the white underparts; lower back white tipped with black; primaries white at the base; the outer feathers of the tail tipped with white on the inner webs. Female marked like a Sparrow; upper parts gray-brown, pale ochre, and brownish gray; a buff line on the crown, and a dull white one over each eye; wings and tail darker gray-brown; light dull orange under the wings replaces the rose color of the male; upper wing coverts tipped with white; under parts light buff streaked with gray-brown. Nest loosely woven of rootlets, twigs, and plant fibres; lodged in thick undergrowth, or in trees from five to twenty feet from the ground. Egg pale greenish blue with a variety of brown markings. Rose-breasted Grosbeaks are supposed to be common throughout eastern North America as far north as Maine; they winter in Central and South America. These birds, however, are unevenly distributed. I have found them far more frequently in the vicinities of Boston, Cambridge, Mass., and Morristown, N. J., than in Campton, N. H. Mr. Scott also says the birds "are commonly found in some of our thickly built suburban towns, where, undisturbed by the vicinity of man, they seem as much at home as in the wilder woodlands. Such conditions I have observed in the town of Cambridge, Mass., where this is an almost abundant garden bird; and in South Orange, N. J., and vicinity, much the same is the case." The food of the bird is largely composed of beetles and a variety of injurious insects. He has a great liking for the potato beetle.

The song of the Rose-breasted Grosbeak has been generally described as similar to that of the Robin, but this similarity, from a musical point of view, is altogether to superficial to deserve serious attention. I most emphati-

cally agree with what Mr. Chapman has to say about this bird's song, but at the same time venture to suggest that notations of Robin and Grosbeak songs should not necessarily show that similarity of form which he seems to think is inevitable. He says (I quote from the *Handbook of Birds*): "The song of the Rose-breasted Grosbeak is generally compared to that of the Robin, and musical notations would doubtless show that the comparison is not misleading. But the similarity is largely one of form; in expression there is no more resemblance in their voices than there is between the birds themselves." That is true, yet it is nothing less than an enigma to find out precisely where the difference lies; I should certainly say it was pretty close to form, expression, and something else besides!

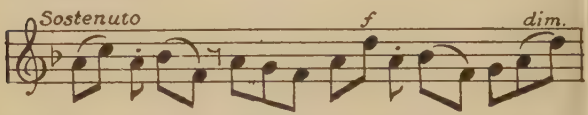
The *form* of the Robin's song may be definitely represented by dots; there is no question about his triplets: . . . . I suppose it would be safe to say there are ten triplets to each doublet. In other words, the abiding characteristic of the Robin's song is his triple note. On the contrary no such rule will hold with reference to the Rose-breasted Grosbeak's song; the triplets which *he* sings are not by any means *distinctly separate groups*. It is perfectly apparent to an attentive ear that the song of this bird flows with a certain degree of smoothness, or evenness which is *not* characteristic of the Robin's jerky efforts. Here is an ocular proof of that point: . . . — . . . . . — . —. These dots show two things quite plainly: first, that the song is almost, if not quite continuous, and second, that some of the tones are sustained longer than others, thus:



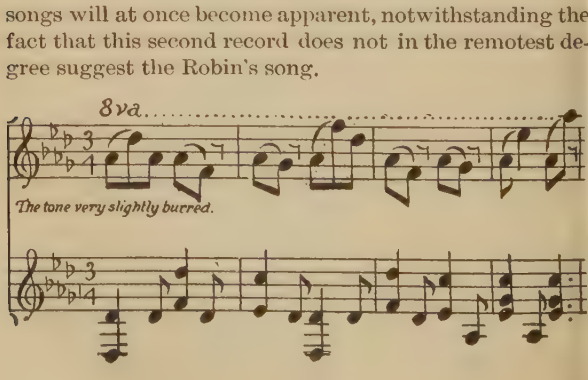
Again, there are other significant points about this bird's music which dots and dashes can not show. Few, if any, of his notes are rendered *staccato*, many with remarkable expression glide up or down the scale a whole musical third and even a fifth, and all, or nearly all, are

characterized by a delicate overtone. To these facts we must add the important one that, for an apparently anxious and restless bird always seeming to be in a hurry (at least during the courting period), the tempo of his song is quite moderate. This description is about as unlike the music of the Robin as it could possibly be. Robin's notes are all emphatically staccato, few slide—and these are accidental, hurried, and without expression, — only occasionally are any characterized by what might be termed a *crude* overtone, and all progress in a lively, bustling way without any regard for moderation.

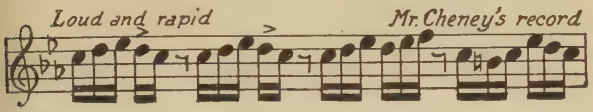
Here is a Rose-breasted Grosbeak's song obtained in Campton, N. H., in June, 1903. I do not think it is radically different from others which follow, yet in superficial appearance it might suggest the Robin's song while these others do not; if so, the reason may be attributed to the tying together of the notes in groups of twos and threes:



Observe that the strain is in the minor key, yet it has a dancing rhythm which gives it a character of sprightliness. Now compare this with the next record in another and a major key, and the family resemblance of the two songs will at once become apparent, notwithstanding the fact that this second record does not in the remotest degree suggest the Robin's song.

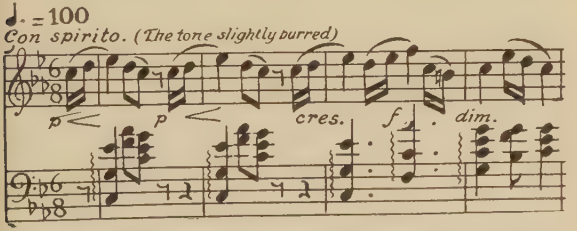


The old adage that "there 's more than one way of k..ing a cat" applies to the Rose-breasted Grosbeak's song in musical notation, for, furthermore, if we turn to Mr. Cheney's *Wood Notes Wild*, we find the following, which bears not the slightest resemblance to my own records given above!



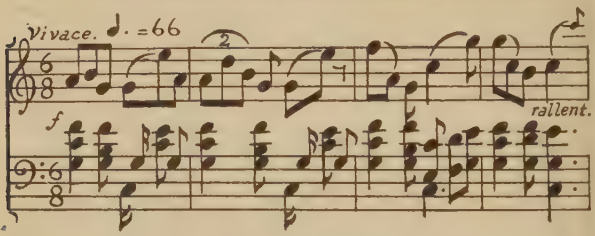
But Mr. Cheney admits writing this music from memory though with a feeling of confidence in the accuracy of its main features and spirit.

I, also, can see the accuracy of the record, and by whistling the tune in the Rose-breasted Grosbeak's *way* conjure up a very tolerable idea of what Mr. Cheney must have heard. If, therefore, I write this bit of music as I whistle it, its appearance must be different from that of Mr. Cheney's writing, thus:

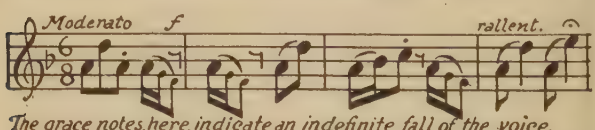


The difference is attributable to the facts that the slurs, in my estimation, are important and inseparable from a proper rendering of this bird's music, the burring signs are similarly important, and the pitch of the bird's tones being indefinite my rendering requires a slight variation of the notes. For that matter it must become very evident to one who studies this bird's music carefully, that he is woefully lacking in *pitch*. There is no certainty about his tones; in every instance it is a questionable C, D, or E, and one has to supply the deficiency. Hence the bird never sings his song out of tune, simply because

there is no tune to his song—leastwise, one can claim only a suggestion of a tune! But we can always rely upon the bird's rhythm; it is utterly unlike that of the Robin, and possesses a smooth and graceful flow not to be excelled by the best of our woodland songsters, the Thrushes not excepted. In Arlington Heights, Mass., I obtained a record of one of the most even-flowing songs of the Rose-breasted Grosbeak I have ever heard; it shows a far greater range of voice than Mr. Cheney's record, but, as usual, there was no accuracy of pitch.



Again, on Linnæan Street, Cambridge, I obtained another smooth and even record scarcely inferior:



The grace notes here, indicate an indefinite fall of the voice.

Nearly all the songs show at the end a rising inflection of the voice, which is given in a most enticing and persuasive manner. Only the Purple Finch can equal the Rose-breasted Grosbeak in this bit of pure sentimentality, and in the case of both birds the effect is certainly very telling.

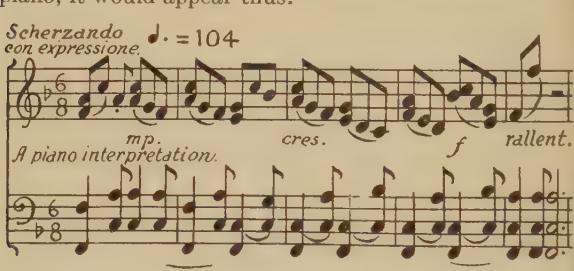
To the rising and falling inflections of this Grosbeak's voice, it is therefore reasonable to suppose one may attribute the sentimental character of the song. Such an element is wholly absent in the Robin's music, and on that account alone from a musician's point of view the songs of the two birds must certainly be considered absolutely dissimilar.

Most writers on birds are not less than enthusiastic

about the music of the Rose-breasted Grosbeak, and I am inclined to think this is wholly due to its sentimental character. E. A. Samuels writes, "The song is difficult of description; it is a sweet warble," (in this regard my opinion differs from his, for I do not consider the bird warbles at all!) "with various emphatic passages, and sometimes a plaintive strain, exceedingly tender and affecting." H. D. Minot also falls into the error of the "warble"; he writes, "he pours out an extremely mellow warble, like that of the Robin, but very much finer. Sometimes he sings in the night, and with an ardor which adds to the beauty of his song." Nuttall, too, is not behind Minot in the matter of the "warble," for he writes that the bird "is a most melodious and indefatigable warbler, frequently in fine weather, as in its state of freedom, passing a great part of the night in singing, with all the varied and touching tones of the Nightingale. . . . The notes are wholly warbled, now loud, clear, and vaulting with a querulous air, then perhaps sprightly, and finally lower, tender, and pathetic." John Burroughs writes in *Wake Robin* that "he has fine talents, but not genius." Mr. Cheney writes, "his loud, ringing song surely arrests the ear. He sings rapidly and energetically, as if in a hurry to be through and off. No bird sings with more ardor. While on paper his song resembles the Robin's, . . . the voice and delivery are very unlike the Robin's." But Mr. Chapman's admiration of the bird's voice is evidently unlimited; for he says, "There is an exquisite purity in the joyous carol of the Grosbeak; his song tells of all the gladness of a May morning; I have heard few happier strains of bird music. With those who are deaf to its message of good cheer I can only sympathize, pitying the man whose heart does not leap with enthusiasm at the sight of rival males dashing through the woods like winged meteors, leaving in their wake a train of sparkling notes."

The call-note of this Grosbeak is a ridiculously high piping *pip*, or a metallic *pink* with a shade of anxiety to the tone, which seems quite unrelated to so large a bird. But the song is truly an inspired bit of bird-carolling, to

be valued less for its melody than for its incomparable dancing tempo and its inimitable tenderness. If the music were embodied in a form easily interpreted by the piano, it would appear thus:



Indigo Bunting
Cyanospiza cyanea
L. 5.55 inches
May 12th

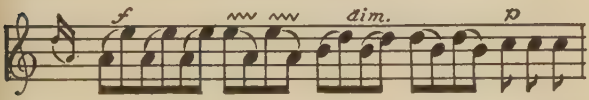
The intensely blue Indigo Bunting, or Indigo Bird, often appears a mere tiny black silhouette against the brilliant sky as he is perched in his favorite commanding position on the topmost twig of the towering tree beside the road. That is the place where it has been my custom to find him. But for a better view of his magnificent color we must wait for him to descend from his high perch, or else, in some manner, we must endeavor to gain a position between him and the sun so its rays will illuminate his intense and lustrous plumage. Excepting his wings and tail which are black margined with blue, his whole body is a deep Prussian blue of an iridescent quality comparable only to that which we see on the Peacock's neck. The color is deepest on the head, and brightest on the back and neck; the cheeks are blackish. The female is brown, streaked above, and pale on the under parts fading to brown-white; wings and tail brown faintly margined with blue. Nest usually placed near the ground in the Y of a bush or shrub, and made up of dead leaves, grasses, plant fibres, and bark, lined with horse-hair and other fine material. Egg blue-white. The bird is common throughout the eastern United States; it winters in Central America.

The song of the Indigo Bunting is one of the most enlivening and cheerful little lays which one may hear

along the roadside, for the little fellow is one of the commonest birds of the highway. But he has no gift of melody, and of sentiment he knows nothing. His is a canarylike voice, pitched almost beyond the keyboard limit of the piano, and composed of a series of loud, ringing metallic chirp-notes of very nearly equal value, which slightly diminish in volume as the song nears the end. Expressed by a group of dashes (these, rather than dots, would seem to be nearer a good representation of far-reaching chirps), the song should appear thus:

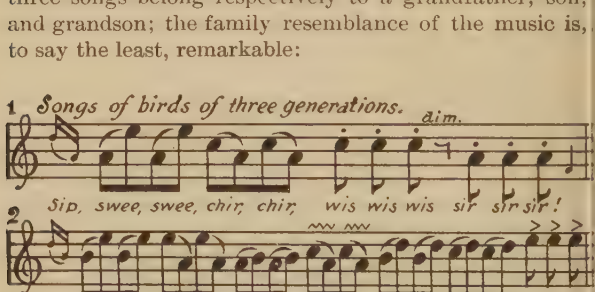
\/// \\// \\ . . .

He always introduces his song with a pianissimo downward chirp, then proceeds loudly with two or three upward chirps, continues with a series which alternates up and down, and finishes with three (sometimes two or four) monotone notes which are remarkably suggestive of the words *fish, fish, fish!* He is an indefatigable songster, and during the nuptial period it is common for him to sing at the rate of five songs a minute for an hour at a time. His interims, too, are short, and it would be a conservative estimate at this rate to say the song is repeated (without any variation, or with trifling variation) not less than two thousand times in a day! Of course, the *form* of the song—that is, the rising and falling inflections of the voice which are properly called chirps, their repetitions, the *diminuendo*, and the few monotones together with the comparatively equal value of all the notes—is always the same; but the particular song which is illustrated by the dashes above, and again represented by this record—



is only one of a great number belonging to the Indigo Bunting's repertoire, for *no two birds sing exactly alike.* There is a striking similarity, though, in the songs of particular families. I have become familiar with the

character of the music of individuals belonging to different generations, and the results of my observations when recorded upon paper have proved surprisingly similar. It must be remembered that birds frequently come back to their old nesting places; so when I say that I have noted with interest the musical efforts of a particular individual and his descendants for four, yes, five successive seasons, the records of the findings will not seem so much like results of one's imagination. The following three songs belong respectively to a grandfather, son, and grandson; the family resemblance of the music is, to say the least, remarkable:

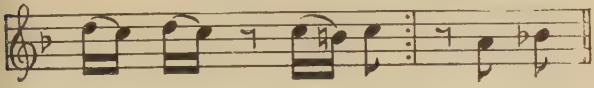

1 Songs of birds of three generations.
dim.
2
Sip, swee, swee, chir, chir, wis wis wis sir sir sir!
Sir, chewe, chewe, cheer, cheer, swe, swe, chir, chir, sir, sir, see, see, fish, fish, fish!
3
fish, fish, fish, fish!

The third bird sang in 1902 and added one more fish to the song!!

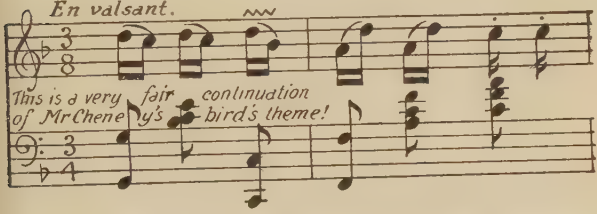
But still more remarkable was the gradual musical development of each song through each season to its complete form; there would not be enough space in this book to show that, and its practical value would be indeed questionable.

Recollecting that there is no tangible melody to this Bunting's song such as that which characterizes the Song Sparrow's extraordinary essay, it will be readily understood why the tonic and key are not easily determined. Besides, it becomes still more difficult to record a bird's song when the register is half-way off the keyboard of the piano! The Indigo Bunting sings too high for one to be *sure* of his key without considerable study. Mr. Cheney gives us a characteristic record, and draws the

conclusion that the key was F. I have taken the liberty of slurring the notes.



I made a somewhat similar record at the railroad depot of Campton, N. H., August 15, 1901 (this shows how late the little fellow sings), and there appeared to be no question about the key; it was B flat.



There is in this song, as there is in almost every Bunting's song, a particular note which is burred.

Of all the birds belonging to the Finch Family this is the one whose song sounds most like that of the Canary, though I must except, to a certain degree, the Goldfinch. But quite unlike the Canary, the Indigo Bunting never gives the rapidly repeated note which is generally called a trill, or any complication of bubbling tones. His is the simplest kind of a performance, brief, and at the same time full of beauty and good cheer. He is classed among those immensely useful birds which destroy not only an infinite number of injurious beetles and bugs, but also an incalculable amount of weed seed. Although in the vicinity of my summer home in Campton he is most frequently seen at the top of some gray birch, or the wild cherry-tree, he is often found, late in the season, hunting for seeds on the roadside.

Mr. F. E. L. Beal in writing about the annual destruction of weed seed by the Junco in the State of Iowa, says: "Upon the basis of one-fourth of an ounce of seed eaten daily by each bird, and supposing that the birds

averaged ten to each square mile and that they remained in their winter range two hundred days, we should have a total of 1,750,000 pounds, or 875 tons, of weed seed consumed by this one species in a single season. Large as these figures may seem, they certainly fall far short of the reality. The estimate of ten birds to a square mile is much within the truth, for the Tree Sparrow is certainly more abundant than this in winter in Massachusetts where the food supply is less than in the western States; and I have known places in Iowa where several thousand could be seen within the space of a few acres. This estimate, moreover, is for a single species, while, as a matter of fact, there are at least half a dozen birds (not all Sparrows) that habitually feed on these seeds during the winter."

Family *Tanagridæ*. TANAGERS.

The Family of Tanagers belongs exclusively to the New World, and the great majority of its members are found only in the tropics. According to Mr. Chapman but five out of about three hundred and fifty species visit the United States. Of these there are two which may be seen in the eastern section of the country, the Scarlet Tanager and the Summer Tanager, and the latter is an extremely rare bird north of southern New Jersey and Illinois. Even the Scarlet Tanager can not be called common; he comes late and departs again quite early, frequenting, in the northern parts of his range, the secluded margin of the woods. The Tanager Family is remarkable for the splendor of its plumage, and a few of its members possess unusually fine voices bearing a remote resemblance in song-form to the robust voice of the robin.

Scarlet Tanager
Piranga erythromelas
L. 7.20 inches
May 14th

This splendidly apparelled bird—a flash of color from the tropics—invariably causes an exclamation of surprise and delight to burst from the lips of even the most unemotional observer. A sight of him through the opera-glass is an unexpected revelation of vivid scarlet, the like of which is only comparable to one of those

Scarlet Tanager

Mate
(holarc)

orilliant aniline dyes which fairly makes the eyes swim! The whole plumage of the bird, except wings and tail, is an intense red-scarlet; not a vermilion color, for that lacks life, but a vivid hue such as one can only produce by superimposing Geranium Lake upon Scarlet Vermilion. The wings and tail are glossy black; the under wing-coverts white. Female light olive green above, yellow-green beneath; wings and tail umber brown margined with dull olive green. Young males like the female but with black wings and tail. By the first of September the adult male moults his scarlet feathers, and these are replaced for winter wear by others of a bright olive green hue.* The nest is a loose-woven cup-like structure of coarse grass, plant stalks, and vine tendrils lightly but skilfully put together; it is usually located near the end of a horizontal limb, about twenty feet (often much less) above the ground. Egg pale greenish blue, strongly marked with madder brown. This bird is distributed from southern Illinois and Virginia northward to New Brunswick and Manitoba.

The song of the Scarlet Tanager like that of the Rose-breasted Grosbeak has been frequently compared to the Robin. H. L. Nelson and E. A. Samuels, both writers about our northeastern birds, express the opinion that the songs are similar. Florence A. Merriam also says the song suggests that of the Robin, and J. B. Grant thinks "there is indeed a likeness between the two, the Robin's song excelling, however, in heartiness if not in variety." Some years ago when I first made the acquaintance of the bird, I was deceived into thinking the song was that of the Robin; but in a minute of time I discovered a peculiar burred character to the voice and shortly afterward traced it to its proper source. To be sure, there is a certain wild-wood likeness between all bird songs, and between those of the Rose-breasted

*W. E. D. Scott says, in *Bird Studies:* "The males . . . vary very much in the shade and intensity of both the red of the body and black of the wings and tail. They also present curious examples of color variation. . . One of the most frequent of these divergences is in the direction of one or two more or less clearly defined scarlet or bright yellow wing-bars. These occur most often in very intensely colored birds."

Grosbeak, Scarlet Tanager, and Robin, there are unmistakable resemblances which it would be fatuitous to ignore. But it must be remembered such similarities are *wholly* superficial, and that an ordinarily discriminating ear would have no difficulty in recognizing the fact.

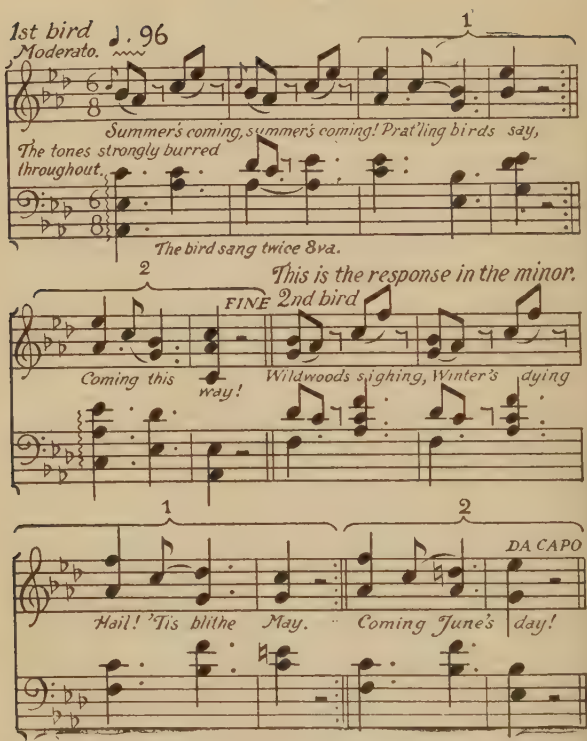
The most pronounced feature of the Scarlet Tanager's voice is its quality of tone; every note is strongly double-toned or burred. Mr. Bradford Torrey has been quick to recognize this fact for he remarks, in *Footing it in Franconia*, that the Scarlet Tanager is still singing hoarsely! That exactly expresses a tone quality not only nearly absent in the Robin's voice, but in a matter of degree decidedly unique in the Tanager's voice. A very few of the Robin's notes are burred (sometimes not one); many of those of the Rose-breasted Grosbeak are *slightly* burred (sometimes nearly all); but the abiding characteristic of *all* the Tanager's notes is a double-tone which can only be imitated by *strongly humming* and whistling at the same time. There is a lazy, drowsy, dozy buzz to this beautiful bird's voice which one can only liken to a giant musical bumblebee, or an old-time hurdy-gurdy; the unobtrusive music speaks of summer's peace and rest, soft zephyrs blowing over sighing pine-trees, and tinkling shallows of woodland brooks. From a point of view confined to pure sentiment there is not the slightest similarity between this serene crooning melody and the rollicking carol of the Robin. There are also several other very pronounced differences between the songs of the two birds: the Tanager sings in groups of two, occasionally three, notes, and *vice versa*, the Robin in groups of three, and but rarely two, notes; also, the triple notes of the Tanager are tied together very closely and are *not* delivered *staccato* as are those of the Robin. In Mr Cheney's records (pages 74 and 75 of his *Wood Notes Wild*) there are nineteen two-note groups and but ten three-note groups. Among five of my own records I find twenty-four groups of twos against only six groups of threes! In both of these collections it is plain that all the *triple* notes were slurred, and no note anywhere rendered *staccato*. These differ-

ences certainly reveal a distinct contrast between the songs of the two birds and minimize all theories about their resemblance; furthermore, we still have the *melody* of the Scarlet Tanager to reckon with, and before I have finished with that it may possibly become evident that it bears no relationship whatever to that of the Robin.

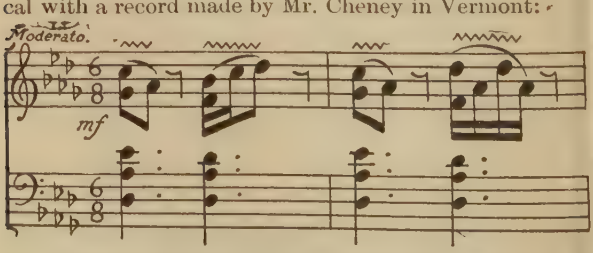
An illustration of the Tanager's song by a series of signs —using dashes rather than dots to represent the *legato* in contradistinction to the *staccato* character—should

legato.

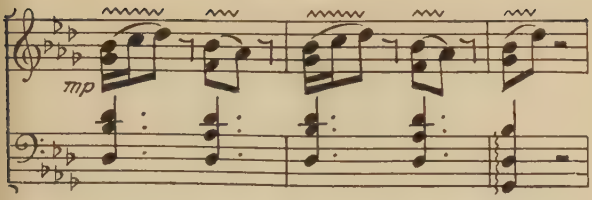
appear this way: — — —



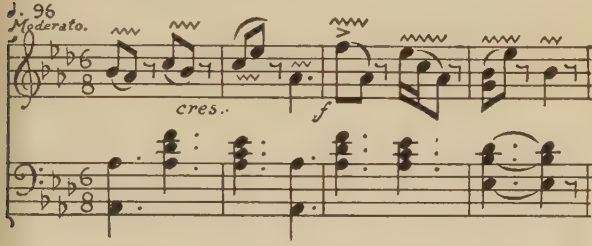
In the course of another season I was greatly surprised to hear a New Hampshire bird sing a song almost identical with a record made by Mr. Cheney in Vermont:



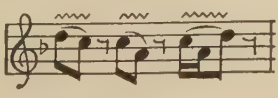
An excellent addition to this theme may be found in Mr. Cheney's record on page 75 of *Wood Notes Wild:*



On July 9th of the same year I obtained this lovely though incomplete melody:

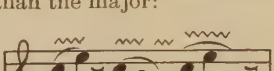


In comparison with the Rose-breasted Grosbeak, the Tanager is far better at pitch; one experiences no difficulty in locating the key, and although the intervals at times are a trifle obscure, a little patient study reveals their identity. That wide interval of a sixth in the last record is rather unusual for a Tanager, but it was given in this instance with unmistakable accuracy and emphasis. Such a musical jump would not have been at all surprising coming from the Baltimore Oriole, for that is exactly the sort of thing he can do to perfection, if a bird *can* do anything perfectly, but this happened to be a performance greatly to the credit of the Tanager; not every one possesses a voice with a compass of more than a musical fifth, indeed, as a general rule most young birds keep well within the limit of a fourth, as the following representative record will testify:

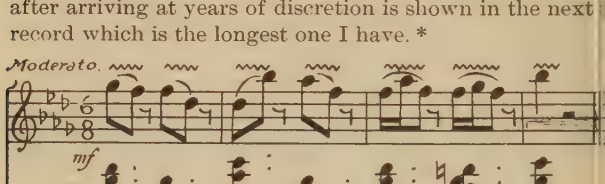


But I have also the song of a young Tanager who spanned

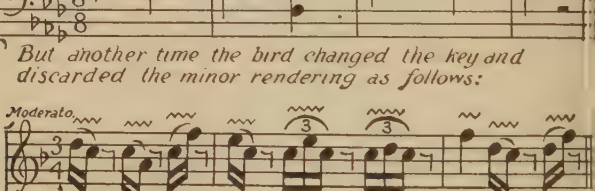
a fifth; he sang in the minor key, however, which was easier for him than the major:



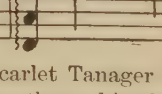
How much a Tanager can improve in his musical efforts after arriving at years of discretion is shown in the next record which is the longest one I have. *



But another time the bird changed the key and discarded the minor rendering as follows:



The call of the Scarlet Tanager has been adequately rendered by various authors *chip-cherr;* the syllables are self-explanatory and scarcely need my musical addition:



But this may aid one in remembering the ever-present overtone in the bird's voice. Mr. Torrey, in his *Birds in*

* Curiously enough this advanced musical effort is set in the keys of D flat and its relative B flat minor. Quite an accomplished bird, this!

the Bush, says of the call-note: "Formerly I gave the Tanager credit for only one song,—the one which suggests the Robin laboring under an attack of hoarseness; but I have discovered that he himself regards his *chip-cherr* as of equal value." Possibly there are many who do not esteem the song of the Tanager very highly. To tell the truth, the gorgeousness of the little fellow's costume eclipses his fame as a musician; but we must travel far to hear another voice with such a perfectly delicious reedlike quality, and it would tax the ingenuity of an accomplished whistler to imitate it with any approach to a creditable semblance of its singular beauty.

Family *Ampelidæ*. WAXWINGS.

This small family includes but one species, the Cedarbird, which may be justly called common in the eastern United States. It is devoid of any musical ability, but is otherwise very interesting.

Cedar Waxwing
Cherrybird
Ampelis cedrorum
L. 7.15 inches
April 10th, or all the year

This Cedar Waxwing, or Cedarbird, as he is sometimes called, is most certainly a "tailor-made" bird if ever there was one which deserved that significant appellation. His feathers are a close fit, his style refined and irreproachable; his orderly appearance is in sharp contrast with that characteristically dishevelled morsel of bird-life which we call the Chickadee, and his dignified carriage is an unexceptionable model for other members of the feathered tribe. * His colors (and conduct as well) are quiet almost to the point of being Quakerish; upper parts a soft tone of light brown graded to gray on wings and tail; head conspicuously crested; region about the eye and beneath the bill black; tail tipped with a yellow band; secondaries, and sometimes tail, in the yellow part, tipped with scarlet spots resembling red sealing-wax. Under parts like the back, but paling to a yellow-

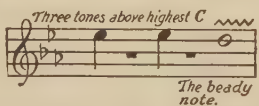
* Mr. Ned Dearborn, in his *Birds of Durham*, calls them "the tip-tops of feathered aristocracy."

ish tint lower down. Female similarly marked. Nest built in some tree usually near the house (not infrequently a fruit-tree), bulky, and woven with grasses, bark, twigs, moss, and rootlets, sometimes with a basis of mud; the lining of similar but finer material. Egg purplish or bluish gray variously spotted with umber or black. The breeding season is late—about early July. The birds range throughout North America, breeding from Virginia northward, and among the Alleghany Mountains south to South Carolina; they winter from the northern United States to northern South America. They are characteristic wanderers—Mr. Scott calls them gypsies—who come and go in squads of six or seven, or more, regardless of migration periods. Their quiet unobtrusiveness, their silence, their gentle manners and refined appearance always make them peculiarly attractive to the bird-lover, in spite of the fact that they have an unfortunate reputation for being over-fond of cherries. But I think Mr. F. E. L. Beal has proved that this is an onus of unjust opinion saddled upon a bird of generally beneficent habits. He says: "much complaint has been made on account of the fruit eaten. Observation has shown, however, that the depredations are confined to trees on which the fruit ripens earliest, while later varieties are comparatively untouched. This is probably owing to the fact that when wild fruits ripen they are preferred to cherries, and really constitute the bulk of the Cedar-bird's diet. In one hundred and fifty-two stomachs examined, animal matter formed only thirteen and vegetable eighty-seven per cent., showing that the bird was not wholly a fruit eater. . . . Of the eighty-seven per cent. of vegetable food, seventy-four consisted entirely of wild fruit or seeds, and thirteen of cultivated fruit, but a large part of the latter was made up of blackberries and raspberries, and it is very doubtful whether these represented cultivated varieties. Cherry-stealing is the chief complaint against this bird, but of the one hundred and fifty-two stomachs only nine, all taken in June and July, contained any remains of cultivated cherries, and these would aggregate but five per cent. of the year's food."

Cedar Waxwing

The handsome Cedar Waxwing is therefore a bird of use as well as beauty; but alas for his song! It does not exist, or if it ever did it is now reduced to the level of a pianissimo imitation of the whistle belonging to the Italian's peanut roaster which sings on the corner of our city streets. Mr. Torrey writes pleasingly about the almost unbroken silence of this bird's life, and adds: "Of course I refer to the Waxwing whose faint, sibilant whisper can scarcely be thought to contradict the foregoing description. By what strange freak he has lapsed into this ghostly habit, nobody knows. I make no account of the insinuation that he gave up music because it hindered his success in cherry-stealing. He likes cherries it is true, . . . but he would need to work hard to steal more than does that indefatigable songster, the Robin."

I have managed, not without some difficulty, to locate the note of the average Waxwing at E flat, just three tones beyond the limit of the piano!



There is also a *burred* note, which Thoreau calls his "beady note," included in the above notation. That is the best and only representation it is possible for me to give of the voice of this æsthetic squeaker.

Family *Vireonidæ*. VIREOS.

This group of birds is very nearly related to the Warblers; but in song and habits the Vireos show traits which are distinctly their own. There are about fifty species in America, to which country this family exclusively belongs, but only five species may be considered common in eastern North America.

Red-eyed Vireo
Vireo olivaceus
L. 6.20 inches
May 12th

The few species of Vireos commonly found in the eastern part of our country are extremely interesting and useful birds, far more musical than the so-called Warblers to which they are closely related, and certainly

more deliberate in character and action. They are, like the Warblers, great insect destroyers. It is very significant in view of the differences between the two classes of birds that the Vireos almost invariably sing in *allegro* and the Warblers in *presto* time, that the voices of the tiny Warblers are weak, thin, and pitched very high, and that those of the more robust Vireos are louder and pitched much lower.

The Red-eyed Vireo is one of the commonest of birds, and is easily recognized by his *intermittent* song. He is in every orchard, along every highway and byway, and on the margin of every wooded hill throughout the country. His crown is dark gray margined by an almost black line sharply contrasted with a white one directly over the eye; the iris is reddish; upper part of wings (with no wing-bars) light brownish olive; under parts white or yellower white as the season is advanced. Female similar in coloring. The nest is pensile and woven of dried grasses and the shredded stems or branches of weeds; plant down, bits of paper,* and birch-bark are also often used in its construction. About one half of the edge of the nest is attached to some forked limb anywhere from five to thirty (or rarely more) feet high. Egg white, sparingly flecked with umber or sepia. The range of this Vireo is throughout eastern North America; it winters in Central and South America.

There is no bird song more easily traced to its source after a little experience with the roadside songsters than this one. It is not necessary to leave the road to find the singer, he will surely be directly overhead or on the other side of the way before one has walked five minutes; he is omnipresent, persistently loquacious, indefatigable, and irrepressible! He has something to say at all times and under all circumstances, and one may absolutely rely upon his having the *last word* unless the matter is settled with a gun! He is a restless fellow and is seldom in one place for more than a few seconds at a time. All through the long summer day he sings his rhythmically,

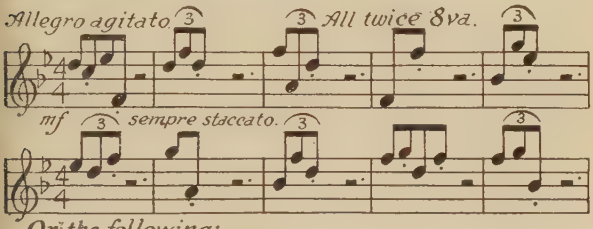
* A young lady once showed me a nest belonging to her collection, in which was woven a bit of newspaper with the print in plain sight; it read—or part of it did—"front door this side."

Red-eyed Vireo

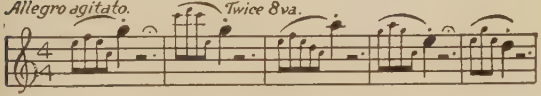
Yellow-throated Vireo

broken, interrupted song, and one may always depend upon this fragmentary character for its unmistakable identification. The dots show the disconnected character of the song perfectly:

The musical notation in general appearance does not look unlike that of the Robin:



Or the following:

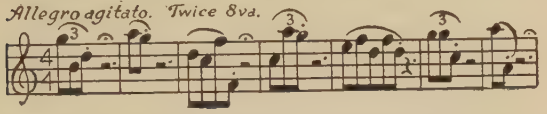


But there are really great differences, and appearances at best are superficial: the Red-eyed Vireo's voice is pitched on a higher key, the notes are more rapid although the pauses are much longer, and the whistle is an apparently clear one by no means running along in unaltering three-note groups. Henry Ward Beecher, crediting the Vireo with a devotional nature, has said of him, "He pauses between each morsel of food to give thanks to Heaven," which is exactly the case if one considers the half-note rests as the time required to devour the morsels! But Wilson Flagg's description of the song places the bird at once among the clergy, and one wonders whether the Vireo is not after all a religious character, for he says: "The Preacher is more generally known by his note, because he is incessant in his song. . . . Though constantly talking, he takes the part of a

deliberate orator who explains his subject in a few words and then makes a pause for his hearers to reflect upon it. . . . 'You see it—you know it—do you hear me?—do you believe it?'" W. E. D. Scott says of the song, it is "slow, drowsy, and broken. Hesitating as if at a loss for the next series of notes, the pause is long but they are sure to come." But I can not, myself, see anything slow or drowsy about it; instead, one would imagine the choppy sentences indicated that the bird was ever on the *qui vive* for the unexpected! Wilson has another idea about the music, for he says: "Indeed, on attentively listening for some time to this bird in the full ardor of his song, it requires but little of imagination to fancy that you hear it pronounce these words, '*Tom-kelly . . . whip-tom-kelly!*' very distinctly." But after all, from a human point of view, the language of a bird is entirely shaped by our state of mind and environment; therefore, if we separate ourselves as far as possible from such influences, and imagine that the bird is expressing his exuberant feelings by idle chatter as he searches for his breakfast and thinks his wife ought to be by his side to share it—I should venture to suggest he said this: "Fat worms . . . plenty to eat . . . Gobble 'em up . . . they 're sweet. . . . Come dear . . . don't delay . . . Fly this way . . . I'm here!" —but how do we know that? The *fact* of the case, however, is not altered by imagined sentences; the mechanical rhythm of the Vireo's song is perfectly expressed by a series of rapid beats, or taps, or sentences, or notes—one does not care which—widely separated. There are two, three, four, or even five notes in a group, and these are given with such rapidity and with such a lack of true pitch, that all semblance of concerted tones or anything like *tunefulness* must not be expected at all! The bird can *not* sing a connected song; his attempt is a sort of musical hash, a potpourri of tones, not melodies.

Not the best songster in the country on the morning of the rarest day in June can give us a livelier, cheerier roundelay. In the gayest of spirits he sings from early May until the middle of August, and if some hot day in midsummer you enter the woods, and far up among

the tree-tops where the light is greened by the forest's multitude of leaves hear the following song;



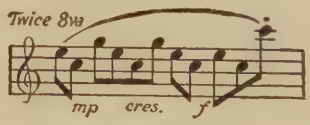
you may be sure it is that of the Red-eyed Vireo; the notes are clearly whistled, there is scarcely a suggestion of the overtone, they are pitched very high, and the groups themselves are closely connected—in fact, slurred. My rendering of the music shows that the bird attempts intervals of a third, fourth, fifth, and even an octave; but very few of these are really accurate; one has to presume more than half the time that the bird meant to do thus, or so, and take no note of failures.

Warbling Vireo
Vireo gilvus
L. 5.75 inches
May 12th

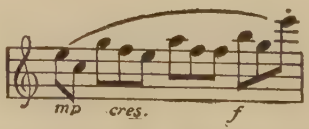
A smaller bird than the Red-eyed Vireo; the upper parts a dull olive-gray inclined toward brown; under parts dull white slightly dashed with pale yellow on the breast; the first primary wing feather *exceedingly short*, the long feathers of the wing and those of the tail tipped with olive at the edges; no wing-bars; a well-defined line of white-gray over the eye; the general color a gradation from gray on the head to olive-brown on the back. The pensile nest, usually attached to a Y branch well above one's head, is woven of various vegetable fibres and lined with soft grasses. Egg white speckled slightly with umber, red-brown, or sepia. The range of this Vireo extends throughout North America.

This familiar bird may be justly termed a village character. He makes his home among the maples and elms of Plymouth, N. H.; and Cambridge, as well as suburban New York knows his cheery song throughout May and June. Unfortunately he is not as easily seen as heard. His time is spent among the tree-tops exploring every leaf and twig with tireless energy; the best way to find him is to be on the lookout for a group of agitated, wagging leaves; there in the midst of the disturbance a tiny, restless, busy figure will presently appear and

disappear before one can adjust the opera-glass—it is he! But there can be no doubt about the identification of the slippery little fellow if one will depend upon the ear rather than the eye, for the song is a continuous warble exclusively his own, although resembling in its general free character that of the Purple Finch. Different writers describe his voice as a rambling soprano; which is all well enough in its way, but generalities, as a rule, are unsatisfactory and misleading, and such a description tells less than half the truth. There is more in the Warbling Vireo's song than at first would appear. In construction it is a smooth, continuous flow of about nine or more notes of equal value. There is no other Vireo that sings *this way*. Again, the Warbling Vireo's attempt at music does not resemble a *song* as much as it does a bit of a fantasia, caprice, or the somewhat rapid movement of a sonata. When the bird begins he runs on until he has finished, without break, pause, or any unevenness whatever. Here is a record from Saxton's River, Vt., taken May 23, 1901:



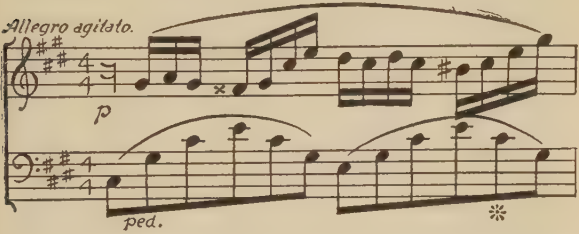
So little is there of variation in the character of the song, that a sufficient proof of that fact is found in the record I made in Cambridge, Linnean Street, two years earlier—May 21, 1899.



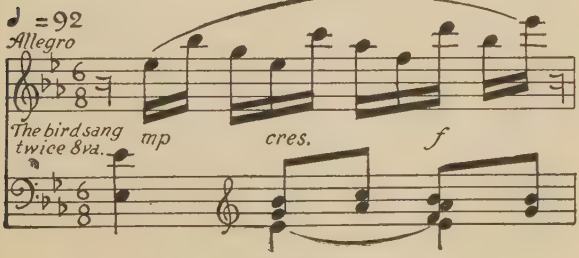
This song is constructively identical with the record taken in Vermont. One needs to bear several points in mind in learning the character of the Warbling Vireo's music. It is almost entirely without definite pitch—that is, the bird does not seem to sing on any particular key (I can not too emphatically state that fact); furthermore,

Warbling Vireo

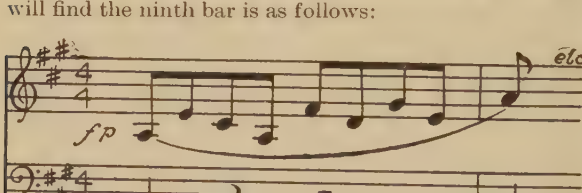
the notes are closely connected together and seem to be rolled around in his bill like a sugarplum, but in spite of this effect they are apparently delivered staccato; the last note in particular is struck and left abruptly, as though it were red-hot! Finally, it is evident that a slight *overtone* distinguishes every note, that each note gathers force as it goes, and that the last one will be found to be the highest in the great majority of songs. Although, note for note, the first phrase of Chopin's wild but beautiful *Impromptu Fantasia* does not correspond with this Vireo's song, it can not be denied that there is a striking similarity in the construction of the two fragments:



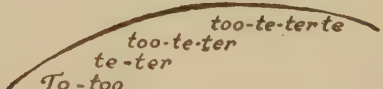
Both bits of music roll triumphantly toward a high note in a sort of spontaneous ebullition of feeling, and there the matter ends—with the *Vireo;* but Chopin goes on, and his sprightly embroidery of tones is ultimately succeeded by the more substantial form of a slow and dignified melody. If we take the Vireo's song and give it the advantage of a harmonious setting, the result is not a bad one:



Now if we take the trouble to look over the first few phrases of that lively old *Sonata* of Scarlatti, which I regret to say is not as popular as it deserves to be, we will find the ninth bar is as follows:



a form almost identical with my interpretation of the Vireo's song! But if it is difficult to catch the idea of the music from these notations, there is still an opportunity of catching it by studying the mechanical rhythm; that may be represented by a series of nine or eleven even taps on the table with the pencil, accompanied by an *undulating* whistle, not forgetting the overtone. Or, if we resort to a demonstration of the form by means of syllables, the best that can be done is this:



I have bound these syllables together with the *tie* sign of music, which, it seems unnecessary to add, is so important that if unheeded it would not be possible to get at the *true character* of the music at all!

It is necessary also to attach the greatest importance to the *crescendo* of this bird's song; he begins perhaps moderately but he ends with emphasis, and certainly he is an artist in smooth execution! Watch him closely if opportunity affords, and you will find his music and business are inseparable; he is a busybody, occupying every moment, *never stopping* to sing, never idle; his refrain is:

"Can't you see it's best to sing and work like *me!*"

His tone of voice is a bit argumentative and persuasive, the *crescendo* attests to that, and what Wilson says of it is perfectly true, although he fails to hear the emphasis inseparable from the crescendo. "This little bird may be distinguished from all the rest of our songsters by the soft, tender, easy flow of its notes while hidden among the foliage. In these there is nothing harsh, sudden, or emphatic; they glide along in a kind of meandering strain that is peculiarly its own."

Yellow-throated Vireo
Vireo flavifrons
L. 5.75 inches
May 10th

This less common Vireo is a more beautifully marked and colored bird than any other member of his tribe. The back is a clear olive green modified to gray on the rump; there are two white wing-bars; the throat, breast, and a ring around the eye are bright yellow; this color fades to white at the undermost parts. The prevailing tones of color are olive-gray and yellow. Female similarly marked. The pensile nest is built of shreds of bark and plant fibres well woven together and lined with soft grasses; it is suspended from a Y branch usually about twenty feet from the ground. Egg white sparingly flecked with umber, red-brown, or sepia. The range of the bird is throughout eastern North America.

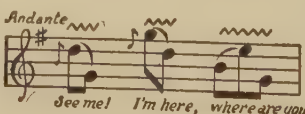
My first acquaintance with this Vireo dates back many years to the day my Manx cat entered the studio with the little creature in his mouth quite dead. I had been puzzled by the distinctly different character of two songs I had heard, evidently belonging to two species of Vireo. These proved to be the songs of the Red-eye and Yellow-throat. The attempt to connect each song with the right bird was not a difficult task, but I really obtained no assistance whatever from the books. For two birds whose songs were so entirely different it seemed absurd that they had been so slightingly treated from a musical point of view.

There are certain radically opposite characteristics to the songs of the two species. It is commonly said that the Red-eye has a soprano, and the Yellow-throat a contralto voice; that is a fairly good comparison as the Red-eye really does pitch his voice in a high key and

the Yellow-throat in a much lower one. But the most striking difference between the voices of the birds is less a matter of *key* than quality of tone—in a word, the Yellow-throat's notes are *completely dominated by overtones*, and the Red-eye's notes are not. To imitate this effect I hum any tone away down in the base and at the same time whistle up high in a very slurring fashion the three or four notes common to the Yellow-throat's song. Of course, music of that nature does not bear any relation to the full, pure tones of a contralto singer. It is nearer the truth to say, rather, that the Yellow-throat has a violin quality to his voice, or better, a *reedlike* quality; Bradford Torrey calls it an "organ tone." At any rate *there is no clear whistle* to this Vireo's music, and on the contrary there *is* to the Red-eye's music. That is the whole matter in a nut-shell! For the rest I may add that the Yellow-throat's *tempo* is much slower, and that he does not indulge in such an interminable amount of singing! Red-eye takes life much less seriously, and Mr. Gilbert's sentiments placed in Bunthorn's mouth (in *Patience*) regarding the æsthetic poet, exactly fit his case:

> "It really does n't matter
> If it 's only idle chatter
> Of a transcendental kind!"

The deliberate way in which the Yellow-throat sings is also another characteristic of the bird which must always separate his song from that of all his relatives. He is never in a hurry, and after singing three or four clusters of slurred notes, thus:

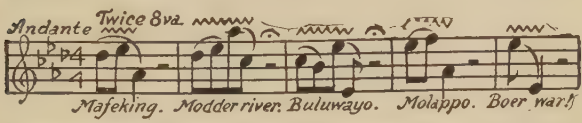


he gives you plenty of time to think the matter over before he makes another remark, and always, you will no-

tice, he sticks to that locustlike buzz which I have described as reedlike. As for what he says, that is again a matter of opinion. Mr. Chapman gives the syllables as follows, but I place them up and down off the line to indicate the pitch:

"See here; are
me; I'm where
you?"

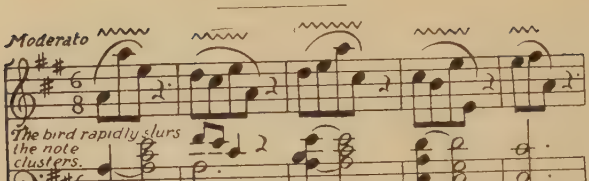
At the time of the Boer War I imagined this interesting bird was telling me all about it in the following way:



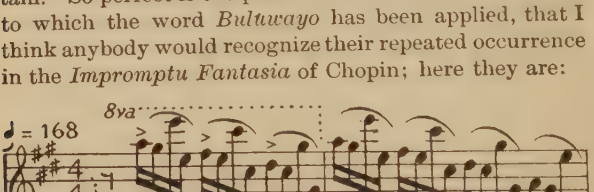
Certainly one finds the word *Buluwayo* fits a particular group of four notes remarkably well, though they are fused together almost inseparably.

There is no variation from this kind of singing so far as I am aware, except that the little fellow occasionally talks to himself *sotto voce*, as many another bird does, when his remarks become musically incoherent. I recollect whistling to him one day, in his own fashion, when we met in the Botanic Garden, Cambridge, and to my infinite surprise he dropped his stereotyped song, and ran rippling along among a lot of trills and warbles, *pianissimo et gracioso!* That was a surprise, and I wondered whether it was meant for a tender love ditty, with myself mistaken for the charming Juliet! Perhaps so, who can tell?

As for the stereotyped song of the Yellow-throat, that, like all the other Vireos' songs, is very uncertain in pitch; one is never sure about the key, for one group of notes may suggest B flat and another F. But if I should render the melody with an accompaniment as one might reasonably suppose the bird would render it if he only knew how to stick to a given key and sing with the piano, the result would be something like the following coherent melodic form:



But one must remember that the song is greatly disconnected—seriously so, for the time is so long between the little groups of notes that this interpretation might prove misleading unless the reader is warned beforehand. My intention is simply to illustrate the fact that the song *tends* towards a coherent form which it just fails to attain. So perfect is the pitch of those slurred four tones to which the word *Bulwayo* has been applied, that I think anybody would recognize their repeated occurrence in the *Impromptu Fantasia* of Chopin; here they are:



If the little bird could only sustain himself, musically speaking, he might do as well as Chopin for a bar or two at least. But he can not, and we must be content with his random phrases, which separately considered are musical enough to satisfy the most exacting ear. At the very least he must always stand as a most expressive singer.

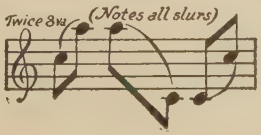
Solitary Vireo
Blue-headed Vireo
Vireo solitarius
L. 5.60 inches
May 1st

This Vireo is a woodland character whose voice is often heard where the road winds through the woods at the foot of the hill. He is one of the few birds who does not hesitate to do the best with his limited musical score in the latter part of September as

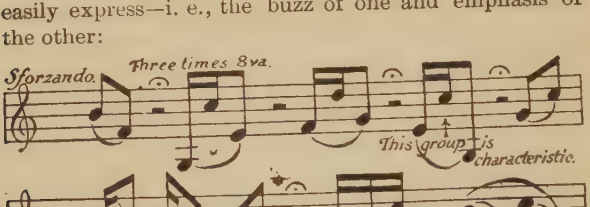
White-eyed Vireo Solitary Vireo

well as the first of May. He is one of the first birds to arrive in the northern woods and the last to depart in the autumn. His colors are simple but tasteful. Head, top and sides, blue-gray; back olive green brighter on the rump; a white eye-ring, and white between the eye and the bill; two distinct white wing-bars; outer web of inner secondaries white; under parts white but tinted with green-yellow on the sides. Female similarly colored. Nest pensile, about ten feet from the ground, and placed in the Y of a slender branch; it is usually built of plant fibres and pine needles. Egg white lightly speckled with umber or sepia, mostly at the larger end. This bird's range is throughout eastern North America. It breeds on the crests of the Alleghanies, and northward from Connecticut. It winters from Florida to Central America.

As a singer the Solitary Vireo will rank as high as, if not higher than, any of his relatives. His music is not remarkable for pitch, precision of intervals, or melody; indeed, he is simply an expert in emphatic expression. In this respect he is quite the equal of his querulous cousin, the White-eye, though he certainly lacks the impertinence of that bird. He may be classed at once among those songsters who can slur over a short passage with remarkable skill and leave one in complete mystery as to what tones were given! To this class belong the lazy Wood Pewee and the somewhat melancholy Meadowlark. But the slur of the Solitary Vireo is of another nature; like the musical swishing of a whip-lash it is fraught with emphasis! Unlike the common note of the White-eye, which consists of four syllables, this Vireo seems to me exclusively to sing notes of two and three syllables. Also, I have noticed him do something which I have never observed any other Vireo attempt; that is, string together no less than three or four of his two-cluster notes; here is an illustration of that point:



The structure of his song is not unlike that of the Yellow-throated Vireo, as the following notation will show; but there is a certain elementary character to the song of each of the birds which written music can not easily express—i. e., the buzz of one and emphasis of the other:



One need not suppose for an instant, that the notes as I have recorded them represent tones accurately struck by the bird; they do not. But they do represent the approximate swing of his slurred tones placed as correctly as possible upon the musical staff.

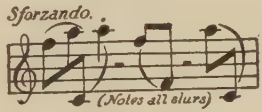
One may think that the music looks like that of the Robin; but I am quite sure that my explanations and musical signs will constitute an evidence sufficient to show that such an impression produced upon the eye could not be other than an entirely superficial one.

White-eyed Vireo. *Vireo noveboracensis* **L. 5.25 inches May 15th.**

The White-eyed Vireo is an extremely uncommon bird in New England. In Campton, N. H., his voice is never heard, and in the vicinity of Boston it is very rare. In northern New Jersey, however, the bird is an almost common summer resident, and his notes enliven the thick shrubbery and undergrowth wherever there is a pond or stream with a marshy border. He is also common in the vicinity of Washington. His colors are, gray olive-green on the back; brown-olive on wings and tail; two distinct yellowish cream wing-bars on each wing; the region in front of and around the eye yellow; throat and under parts dull white; breast and sides tinged with greenish yellow

fading into the white; the iris white in spring and early summer only. Female similarly colored. Nest like that of the Red-eyed Vireo. Egg white with a few markings of umber, red-brown, or sepia at the larger end. The range of this bird is from Florida to New Hampshire and Minnesota; it winters from Florida to Honduras.

The favorite retreat of the White-eyed Vireo is the thicket of the swamp. There, his querulous notes will be heard with a certain impatient inflection of the voice which unmistakably denotes dissatisfaction—at least, that is the impression one gets upon hearing him for the first time. If one stops to investigate the little fellow with the opera-glass, and he discovers the intruder, there is pretty sure to be expostulations on his part of a significant if not a saucy nature. He seems to whistle at one angrily—*Who are you there? . . Go 'way . . . Get out!* His range of voice is much wider than that of the Red-eye, his whistle is almost as clear, but his notes are slurred—not delivered *staccato*. To my mind his voice more nearly resembles that of the Solitary Vireo. Mr. Torrey considers the bird a singer of astonishing spirit and a skilful ventriloquist. The following is my only notation:



It does not differ in appearance from that of other Vireos, but the inflections of the bird's voice, are, nevertheless distinctly his own.

Family *Mniotiltidæ*. WOOD WARBLERS.

This remarkable and large family of so-called soft-billed birds is distinctively American. According to Mr. Chapman there are one hundred species known, of which some seventy visit the United States, the rest remaining in the tropical regions. Of the seventy species, about thirty may be considered more or less common, generally or locally, and of this number certainly not more than a score are likely to become familiar to the

ordinary bird student through their songs. These songs, without exception, are pitched extremely high. There are a few I can find with a register that extends below the highest G of the piano, and many extend approximately to G an octave above that, which is four whole tones more than the piano undertakes to account for! When a bird sings as high as that, we may as well admit that a *musical* ear is sorely puzzled, and a defective one hopelessly tone-deaf. It is therefore no simple matter to determine the *intervals* in a Warbler's song, and notation must represent them approximately rather than exactly; this, however, will in no wise prevent a due recognition of the song printed on paper, for its mechanical rhythm is of far greater importance than its pitch. Naturally enough no musician will consider the Warblers good songsters—on the contrary, as a class, they are the very poorest of the woodland singers. In imitating their songs I have to produce a lisping whistle by placing the tongue immediately back of the upper front teeth, and forcing the tone in between, and making it high or low by the movement of the lips. In this way alone should my notations be read, and *not* with the aid of the piano except as it may serve in locating the tones.

The majority of the Warblers arrive late in the spring, most of them travelling by night. Their food consists mainly of insects, untold myriads of which they destroy during one season alone. How much such work accrues to our benefit, who shall say!

Black and White Warbler
Mniotilta varia
L. 5.25 inches
April 25th

This Warbler, sometimes called the Black and White Creeper, is very common and most easily recognized. He has a habit of walking upside down as well as right side up with the ease and agility of a true *Creeper*, hence a confusion of titles. The bird is admirably marked; he is a symphony in black and white; Nature has rung all the changes possible with those colors. Head barred black and white, a white stripe over each eye; ear coverts black; upper parts streaky black and white; two white wing-bars on each wing; inner webs of outer tail feathers white-patched; throat and upper breast black, or

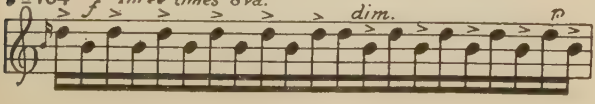
Black and White Warbler

striped irregularly with white; under parts white. Female similarly marked but with less black beneath, and a rusty black or brownish tone on the sides. Nest on the ground at the base of a stump or at the root end of some overthrown tree; it is woven of strips of bark, plant fibres, and grasses, and is lined with rootlets, hairs, etc. Egg white with specks of varying brown at the larger end. This Warbler is distributed throughout eastern North America; it winters from the Gulf States to Central America.

The song of the Black and White Warbler, if one can call any of the *tsippings* of the Warblers by the dignified term *song*, is a series of two distinctly separate high tones approximately at highest C and the second whole tone higher, *off* the piano keyboard. These two tones are wagged back and forth a number of times, and that constitutes the song:

. . . . . .

there is nothing more to it, and yet an acute observer will notice that there is something peculiar about the accent: it is shifted; the *wag* is upward in the first half of the song and downward in the last half. The bird is somehow or other overcome with an exuberance of high spirits, and lisps hysterically! There is not a person, who, when he heartily laughs, does not do something very similar. We say, "Mr. —— was convulsed with laughter," but we took no note of the nature of the *convulsion;* if we did, we would remember that there was a continuous shifting of accent as well as tone in the laugh. Some Black and White Warblers are, of course, young, and these have not yet advanced so far as a shift in the accent of the song—in fact, they do not, to use a popular term, know it all. The musical notation shows the character of the song perfectly, but I must emphasize the fact that the tones are altogether too high to be accurately located on the staff:



To imitate these high tones it is necessary to place the tongue in a rigid position behind the upper front teeth, an eighth of an inch, perhaps, away from them, and force the whistled tone between; the lips will easily manage the third interval by a slight shift.

Golden-winged Warbler
Helminthrophila chrysoptera
L. 5.10 inches
May 14th.

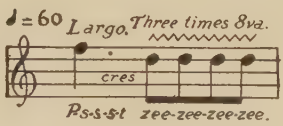
This beautiful gray Warbler with his marks of gold and his funny, quizzical face (when you get a good front view of it) is rather a late arrival. He appears in the vicinity of New York about May 8th, and around Boston several days later. His colors are unique and refined. Top of head bright lemon yellow; upper parts a light blue-gray, with sometimes a slight greenish tinge; two narrow wedges of black extend from about the eye backward, and another from the chin downward, the intervening space being white; a narrow white line over the eye; two overlapping bars on the blue-gray wings form a conspicuous yellow patch; the three outer tail feathers have white patches on the inner vanes; sides light gray; lower breast and under parts white. Female similarly marked, but the black displaced by gray, and the yellow by pale ochre-yellow. Nest on the ground among the bushes in field borders; it is built of dead leaves, bark, and tendrils, and lined with finer material. Egg white speckled on the larger end with varied brown. The bird is distributed throughout the eastern United States and breeds in the more northern ones including northern New Jersey. It winters in Central and northern South America. I have never seen it in Campton, N. H., and according to Mr. Ned Dearborn's report it has not been discovered within the limits of New Hampshire. It is, however, a common bird in the Arnold Arboretum, near Boston.

The song of the Golden-winged Warbler is something of a puzzle to the initiated as well as the uninitiated; it is generally reported as a monotonous *zee-zee-zee-zee*, which is all right in part. Evidently it is a case of tone-deafness with those who have reported the song thus imperfectly, otherwise it is difficult to understand

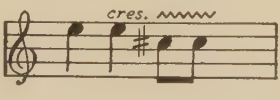
Nashville Warbler

Golden-winged Warbler

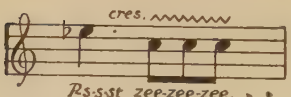
why they should not have favored us with the first syllable. I have never heard the bird sing *zee-zee-zee-zee* alone; for those who listen with a sharp ear he will always sing *Ps-s-s-st zee-zee-zee-zee*, or some similar form which is duly recorded here. It is a notable fact that many people are partly tone-deaf; I have the acquaintance of several so afflicted, therefore, it is not surprising that the syllable *Ps-s-s-st* has not (to my knowledge) been reported, for the note is pitched so inconceivably high that there is little use in placing it in any definite position on, or relatively with, the musical staff! Of course such a tone can not be heard by one who is tone-deaf. The other four notes (there may be less, rarely more of them) are characteristically burred, and one has to hum and at the same time whistle in a lisping way between the teeth to imitate them. Here is a fair representation of the song by a series of signs: — . . . . or, rendering this form in musical notation, the aspect is certainly not materially changed:



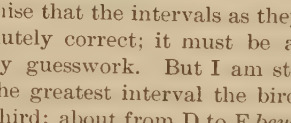
But this Warbler, like many another bird, indulges in certain variations; here is one:



That consists of two long notes and two short ones; the record belongs to a particular individual, and I have been unable thus far to duplicate it, so I suppose it may be considered eccentric. By far the commonest record I have is a form comprising only four notes with the interval of a third between the first and second notes thus:



Then, a very unusual form seems to me to be one where the general order of the song is reversed, and the buzzing note is *higher* than the others, thus:



I can not promise that the intervals as they are recorded here are absolutely correct; it must be admitted that they are mostly guesswork. But I am strongly of the opinion that the greatest interval the bird sings is not over a minor third; about from D to F *beyond highest C.* Unfortunately the lower note, D, is so completely dominated by a buzzing overtone that the bird's voice seems to many people to be pitched very low; but that *burred effect* can not be substituted for a legitimate *tone;* the tone *is* present, and it is at least approximately located at D, a note that I can easily whistle, and, of course, recognize although it is beyond the limit of the piano keyboard.

I have no other types of the Golden-wing's song, though it is very evident others exist. Exactly what form of song Mr. Bradford Torrey heard from his Blue Golden-wing I am unable to imagine, but it is extremely doubtful whether any of the forms here recorded would correspond with his description. He says: "The best of the three songs of the Blue Golden-wing I have never heard except on one occasion, but then it was repeated for half an hour under my very eyes. It bore no resemblance to the common *dsee, dsee, dsee,* of the species, and would appear to be seldom used; for not only have I never heard it since, but none of the writers seem ever to have heard it at all. However I still keep a careful description of it, which I took down on the spot, and which I expect some future Golden-wing to verify." *

* Vide *Birds in the Bush*, page 42.

Nashville Warbler
Helminthrophila rubricapilla
L. 4.75 inches
May 8th

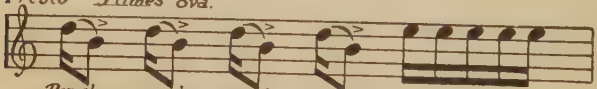
This delightful little Warbler with a jolly song and engaging, cheerful manners, is measurably common throughout New York and New England. His coloring is as refined as that of the Golden-wing, though it is a little more pronounced in effect. The top and sides of head blue-gray; beneath the crown-feathers in partial concealment is a patch of burnt sienna or chestnut feathers; upper parts olive green; no wing-bars; lower parts beautifully graded from pale cadmium yellow to yellow-white; wings and tail edged with clear olive green. Female similarly colored but the yellow not quite so bright. Nest on the ground in brushy pastures or sparse woods; it is built of plant fibres, moss, and rootlets, and lined with finer material of the same nature. Egg white profusely speckled with red-brown especially at the larger end. The bird is distributed throughout eastern North America; it breeds from Connecticut northward, and winters in Central America. Its favorite haunts are the half overgrown pasture, or open woodland where the trees are mostly very young. I recollect spending an hour of the early morning, on the twenty-second of May last, in the hilly pasture of the Davis place, Campton, watching no less than fifteen Nashville Warblers joyously chasing each other about among the tops of the young spruces and firs, and singing incessantly while on the wing.

The song of the Nashville is a delightfully typical one with little or no rhythmic variation so far as my knowledge extends. Few could fail to recognize its stereotyped character after once having had that fully explained to them. Those who can depend upon time beats for the recognition of a bird's song will experience no difficulty with the well-accented music of the Nashville. I have already represented the song by dots in the *Musical Key;* it is a bit of rhythm that skips along in a most lively fashion and ends with a ripple! Expressed by dots, it should appear thus:

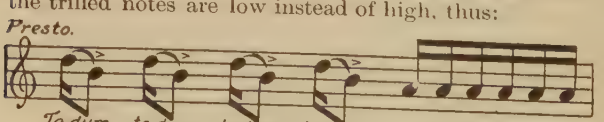
. . . . . .

or, if one prefers syllables, thus: *Te-dum', te-dum', te-dum',*

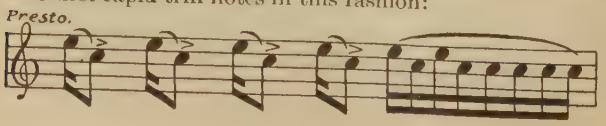
te-dum', te-did-dle-te-dee! Langille compares the first half of the song to that of the Black and White Warbler, and the last half to that of the Chipping Sparrow, which, as the saying goes, is not half bad! But a full knowledge of time in music, and the comparative values of notes, knocks all comparisons like that endways. Compare my notations of the Black and White Warbler's music with those of the Nashville, further on, and the difference will become apparent at a glance. One bird *tsips* back and forth evenly, the other does *not;* one goes with a measured pace, the other, so to speak, lame-legged! Perhaps some will think this is a bit of hair-splitting discrimination, but it is nothing of the kind; on the contrary, it is a simple elucidation of one of those subtile differences in bird songs (particularly Warbler's songs) upon which we must depend for a more perfect knowledge of bird music. Here is my notation of the song previously expressed in the series of dots:



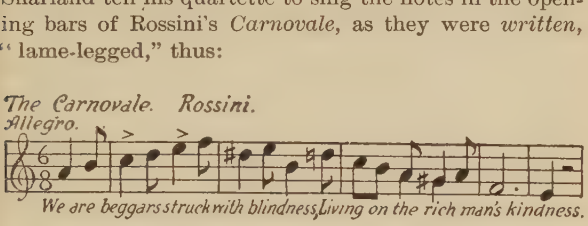
There are few varieties to this form. Rev. J. H. Langille represents the song in syllables thus: "*Ke-tsee, ke-tsee, ke-tsee, chip-ee-chip-ee-chip-ee-chip,*" which shows that *his* bird sang only three slurred double chirps, but added two more trill notes to the tail end of the song than my bird did. But I have also another form where the trilled notes are low instead of high, thus:



and still another where the bird "doubled-up" on the two first rapid trill notes in this fashion:



In every case the Nashville accents (i. e., goes lame-legged on) one or the other of his slurred notes, and that ought to be a very strong point in the identification of the song, regardless of its unique dual character. Minot evidently heard the accent on the first syllable instead of the second, for he writes it: "*Wee'-see, wee'-see, wit-a-wit-a-wit.*" I remember hearing my friend Prof. J. B. Sharland tell his quartette to sing the notes in the opening bars of Rossini's *Carnovale*, as they were *written*, "lame-legged," thus:



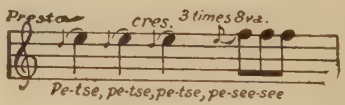
The rhythm is exactly that of the Nashville's song!

Northern Parula Warbler
Compsothlypis americana usneæ
L. 4.72 inches
May 10th

This tiny jewellike Warbler is locally common in New England. He is frequently called the Blue Yellow-backed Warbler. His colors are a rather extraordinary combination of æsthetic tones. Crown gray-blue; upper parts blue-gray, but middle of the back bright greenish yellow forming a definite patch; black-gray in front of the eye; two white wing-bars; outer tail feathers white-patched near the tip; throat and breast yellow, the latter marked with a burnt sienna or chestnut band in spots, the color extending to the throat, sides brownish gray. Female similarly colored, but the chestnut necklace generally absent. Nest built of moss, lichens, dead leaves, and bits of twigs; it is generally constructed (at least in mountain regions where such material is plenty) of the long, stringy moss known as *usnea*, which is commonly found suspended from the dead under-limbs of spruces and firs. Egg white with chestnut speckles thickest at the larger end. The bird is distributed throughout North America as far north as Canada; it breeds locally in New England, New York, and the States on the northern

border. It winters from Florida through the West Indies southward. This Warbler is a common resident of the woodlands where there are well-grown trees of various species. I have often seen him in the Harvard Botanic Garden, Cambridge, in the migratory season.

The song of the Parula* Warbler is a very simple and unassuming one. The tone of voice is exceedingly thin; indeed, so thin that it has been described as hairlike! It also has a slight overtone quality. The song begins with three (sometimes two, and sometimes four) nearly double tones best expressed with added grace notes, and ends with three rapid tones with the effect of a trill, thus:



The song has been fairly well expressed by the syllables *pe-tse'*, *pe-tse'*, *pe-tse'*, *pe-see-see*, but my notation locates the tones. This is the song of one individual, though, and I cannot promise that it is thoroughly typical. Mr. Bicknell recognizes another song which he describes as a fine trill.

Cape May Warbler
Dendroica tigrina
L. 5.00 inches
May 15th

This rather rare Warbler of New England is easily recognized by his chestnut ear-coverts. His colors are peculiar, and not at all brilliant; a combination of warm yellow and browns. Top of head black, the feathers tipped with olive green; ear-coverts (the area back of the eye) burnt sienna or chestnut; behind these a patch of warm yellow; upper back olive green heavily streaked with black, the lower back yellow-green; a large white area on the wings, and on the inner web of the outer tail feathers; under parts warm cadmium yellow streaked with black, very much lighter below. Female gray olive-green above, the

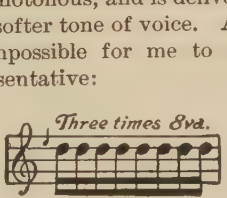
*Pronounced *Par'*-oo-la, not Par-*oo'*-la.

Cape May Warbler

Parula Warbler

rump yellower; a yellow line over the eye; wing coverts tipped with dull white, under parts paler yellow streaked with sepia. Nest semi-pensile, built of fine grasses, twigs, and rootlets, fastened with spiders' webs and fine plant fibres, and lined with horse hairs; it depends from the low branch of a tree in rather open woodlands, or sometimes the tree is an isolated one in the field. Egg buff white or light buff, slightly speckled with light purple madder or umber. The range of this Warbler is throughout eastern North America, north to Winnipeg and Hudson's Bay; it breeds from northern New England north to the range limit, and winters in the West Indies and Central America. Although this is a generally rare bird, in the migratory seasons it will not infrequently be seen in association with some of the distinctive woodland Warblers; in summer it will be found among the higher branches of hemlocks, spruces, etc., on the borders of the forest, and also among the fruit trees of the orchard.

The song of the Cape May is similar to those of the Black Poll and Black and White Warbler; but it is shorter, more monotonous, and is delivered with moderate speed and in softer tone of voice. As I have but one notation it is impossible for me to say that this is thoroughly representative:



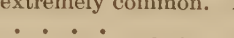
Prof. A. W. Butler describes the song in the following syllables which seem to fit my notation tolerably well: "*awit-awit awit-awit-awit.*" Mr. Torrey says in *Spring Notes from Tennessee:* "The Magnolia and the Blackburnian were in high feather, and made a gorgeous pair as chance brought them side by side in the same tree. They sang with much freedom. But the Cape Mays kept silence, to my deep regret, notwithstanding the philosophical remarks just now volunteered about the advantages derivable from a bird's gradual disclosure of himself. . . . The Cape May's song is next to nothing,

—suggestive of the Black Poll's, I am told,—but I would gladly have bought a ticket to hear it."

Yellow Warbler
Dendroica æstiva
L. 5.10 inches
May 5th

This is one of our commonest Warblers, and it is often, but most mistakenly, called a "Wild Canary." Such an egregious error of popular indiscrimination, however, needs no comment. The prevailing color of this species is yellow throughout; bright on the crown, greenish on the back, and brownish on the tail; under parts bright yellow marked with burnt sienna or chestnut streaks from the throat downward. Female dull green-yellow; tail brown-yellow. Nest built of fine grasses, plant fibre, and fern down, lined with the down and sometimes horse hairs; it is generally located in a Y branch of a shrub or tree on a lawn or in an orchard, usually near the ground, or at most not more than fifteen feet from it. One of the most interesting instances of bird-nesting I have ever known was that of a Yellow Warbler who had chosen an upper branch of a Scotch rosebush for her dwelling, and had arranged the nest in such a position that eventually a large cluster of the yellow roses bloomed directly over her head, thus effectually shielding her from observation more by a condition of analogous coloring than by actual interposition. The little eggs were greenish or bluish white strongly marked with cinnamon brown. This Warbler is distributed through North America excepting the southwestern part. It winters in Central and the northern portion of South America.

There are several types of the Yellow Warbler's song, two of which are extremely common. Here is one:

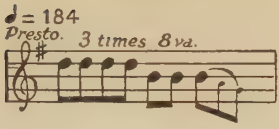


The notes are all of equal value, the interval is approximately a third between the fourth and fifth notes, and the seventh (the last note) slides downward (by a slur) apparently another third. The bird sings in presto time, and his tones are clearly and loudly lisped at the very top of the keyboard and perhaps three notes higher. Here is the musical notation:

Black-throated Blue Warbler

Yellow Warbler

No. 1.

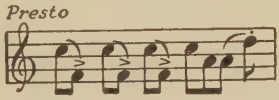


I do not think there is any reason to mistake that song; it is a logical bit of even time-keeping in rapid movement. The second common type I think must be the one which various writers say resembles the Chestnut-sided's song (that is not my opinion, however); it can be demonstrated this way:

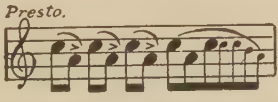
. . . . . .

There are three downward chirps of an interval approximating a fifth, then the single higher note (the half of the chirp) followed by two notes just a third lower, then a last highest, thus:

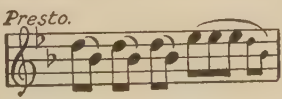
No. 2.



Some evidently think that all the Yellow Warbler's songs end on a high note, but this is not so; my records prove something quite the contrary. What about such a form as this which ends about as it begins?



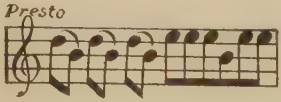
and this one which likewise ends as it begins.



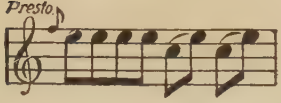
and yet again this one which drops to a tone lower than the one on which it begins:

Nor must we forget my first record which shows a final drop of fully a fifth! How to find a parallel between any of these types and the syllables given by various authors, I confess is a difficult problem; but I am disposed to consider that one of those given by Mr. Lynes Jones is adaptable; for instance, *sweet*, *sweet*, *sweet*, *sweet*, *sweeter*, *sweet-er*, if the syllables of the last two words are distinctly separated, will fit song No. 1. I get no further encouragement; even the notations of Mr. Cheney on page 47 of *Wood Notes Wild* do not correspond with anything I have heard from the bird, so the evidence goes to show that the little singer is versatile. It is a simple matter to prove that fact. Mr. Lynes Jones gives three forms of the song different from mine, and Mr. Cheney three more; to these must be added all but one of the records given here; a total of thirteen! The songs which end with the high note are many; here is one:

and here is another, showing how the type remains the same though the bird rings a change in the positions of the last few notes:



These two records were taken in Cambridge and the Arnold Arboretum between May 14 and 21, 1901, after I had thought I had gauged all the possibilities of variation in the song of this species! Eventually I have had to add still another type to my collection, which strangely reverses the order of the song, thus:



It is to be hoped future observations will not reveal new forms, otherwise, one will be inclined to charge the Yellow Warbler with musical plagiarism! But from whom could he steal such forms? Certainly they do not accurately represent those of any other Warbler, and who can find fault with a bird who chooses to strike out experimentally on new lines!

The Yellow Warbler is an interesting as well as a beautiful character; he sings early in the morning and late in the afternoon, he is quick in his motions, even more rapid in song, charming in his almost fearless manners, and marvellous in his sagacity, for not infrequently the wise little creature outwits the miserable Cowbird, and builds a new nest over the one in which the strange egg has been surreptitiously deposited. I quote from William Hamilton Gibson an amusing account of an extreme instance: "Have we fully examined this nest of our Yellow Warbler? Even now the lower section seems more bulky than the normal nest should be. Can we not trace still another faint outline of a transverse division in the fabric about an inch below the one already separated? Yes; it parts easily with a little disentangling of the fibres, and another spotted egg is seen within. A three-storied nest! A nest full of stories—certainly. I recently read of a specimen containing four stories, upon the top of which downy pile the little Warbler sat like Patience on a monument, presumably smiling at the discomfiture of the outwitted Cowbird parasite, who had thus exhausted her powers of mischief for the season, and doubtless convinced herself of the folly of 'putting all her eggs in one basket.'"

The voice of this Warbler is loud and exceedingly penetrating. Travelling in an express train over the Boston and Albany Railroad, I have more than once clearly distinguished the song as it slipped in through the ventilators of the car, and really dominated the din of the train.

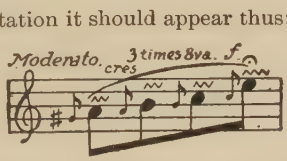
Black-throated Blue Warbler
Dendroica cærulescens
L. 5.20 inches
May 10th

This bird represents an æsthetic combination of such ordinary colors as black, blue, and white, the black and white tones predominating. Upper parts gray-blue with black washings on the back; sides of the head, region of the eye, throat, and sides of the body black; the bases of the primary wing feathers white, forming a conspicuous wing-bar; inner webs of the outer tail feathers with more or less white at their tips; wings and tail edged with blue. Female with a substitution of dull olive green for the blue of the male; the tail with a bluer tinge; the white patches on tail and wings scarcely apparent; region of the eye brown-gray; lower parts pale olive gray on the sides and dull yellow-buff below. Nest usually near the ground, in the underbrush of thick woods; it is built of bark, grasses, pine-needles, etc., and lined with fine plant fibres and rootlets; it is never over two feet from the woodland floor. Egg dull pearl or gray white with varied brown markings mostly at the larger end. This Warbler is found throughout North America; it breeds from New England northward to Labrador, and winters in the West Indies and Central America.

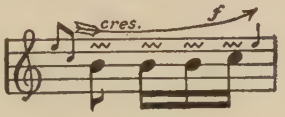
The Black-throated Blue is a bird with a characteristic but not a soul-inspiring song. His is an effort without a tune; a sound comparable to an accidental scraping of the bow over the "cello" strings with the musical tone somewhat decimated. The song is generally described in syllables, thus: *zwee-zwee-zwee-e*. John Burroughs writes it, "*twea-twea-tweaee*" and says it goes with an "upward slide and the peculiar *z-ing* of summer insects, but not destitute of a certain plaintive cadence. It is one of the most languid, unhurried sounds in all the woods. I feel like reclining upon the dry leaves at once. Audubon says he has never heard his love-song; but this is all the love-song he has." That, for a word description of the music, is about as near the truth as it is possible for one to approach. The song is short and deliberate, and the extremely high tone is dominated by a correspondingly low overtone—the *buzz* which Mr. Burroughs likens to the *z-ing* of an insect. I must imi-

tate that, of course, by simultaneously humming and whistling through the teeth. The range of voice is evidently comprehended by a fifth interval, and commonly by a fourth. There are three, four, and sometimes five ascending notes to the song (commonly four), but these are so closely run together—i. e., slurred, that their individuality is lost; by lines, the song should appear thus:

In musical notation it should appear thus:



And that covers the ground, so far as type is concerned. I have another common form which shows that the bird is capable of variation both as to length of note and expression:



Also Mr. Lynes Jones makes mention of several renderings which suggest some difference with the foregoing notations, one is *chweu-chweu-chweu* with each syllable uniform, and another is *we-we-z-z-z-z-z-z* with a harsh and penetrating accent. But I question whether such variations would cause any trouble in the identification of the song; all writers seem to agree that it begins pianissimo and ends with a shrill fortissimo, and it only remains for me to add that it is completely off the keyboard of the piano, notwithstanding its low-pitched overtone.

The Black-throated Blue is essentially a woodland bird, but he frequently visits the roadside and the vicinity of dwellings. He is also a fearless little fellow, comparatively speaking, not altogether free from consuming

curiosity. On one occasion I had the pleasure of seeing him hop to within three inches of my shoe in a persistent endeavor to find out whether I was *myself* a bird or held one captive. Of course, I was conversing with him in his own language, but I have not an idea what we talked about!

Myrtle Warbler
Dendroica coronata
L. 5.65 inches
April 20th, or all the year

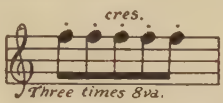
The Myrtle or Yellow-rumped Warbler is a frequent visitor of the grounds about the house in April and May. He is plainly, not conspicuously, marked, with excellent points which serve for his identification. There is a yellow patch on crown and rump, and another on either side of the breast; upper parts blue-gray streaked with black; two white wing-bars; the outer tail feathers have white spots on their inner vanes near the tips; throat white, and upper breast heavily streaked with black which lessens as it reaches the lower parts; these are white. Female similarly marked, but with less black below, and with sepia brown above. Nest of moss, rootlets, and vegetable fibres, lined with fine grasses, generally situated in evergreen trees, five to nine feet above the ground. Egg gray or pearl white, spotted with various browns. The range of this bird extends throughout North America east of the Rockies. It breeds in the northern States and northward, and winters from southern New England to Panama. The species is a hardy one. The birds are particularly fond of the bayberry (*Myrica cerifera*), and will remain during the autumn season a long time where that favorite food is plentiful. Mr. Ned Dearborn writes: "A fortunate versatility of appetite enables them to change their diet when the supply of insects wanes. Their chief food while in Durham consists of bayberries. Stomachs of late spring and early fall specimens contain little besides insects; but nearer the extremities of winter, these berries are eaten to a great extent. After the arrival of the large flocks in the fall, they almost constantly remain in the vicinity of patches of bayberry bushes." These remarks would apply with equal truth to the birds which visit Martha's Vineyard

Myrtle Warbler

Magnolia Warbler

and Nantucket, many of which remain through the winter.

The Myrtle Warbler is an indifferent songster. His call-note is a familiar and characteristically staccato *tchip*, and his song is not unlike that of the Chipping Sparrow, a monotonous, wiry, and thin *tswe, tswe, tswe, tswe, tswe*, etc., pitched beyond the keyboard limit, thus:



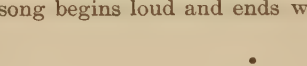
This is the only record I possess of this Warbler's song; consequently I can not promise that it is an absolutely typical specimen. Possibly other birds might sing in a way that would prove this theme had its variations, but I have my doubts about that.

Magnolia Warbler
Dendroica maculosa
L. 5.10 inches
May 15th

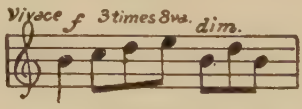
This is another streaky-marked bird which is easily identified. His less common name is the Black and Yellow Warbler and he may be æsthetically considered a color symphony in those two contrasting tones. Crown ashen gray bordered by a narrow line of white, a decidedly bluer gray in spring specimens; the forehead and sides of the face well below and back of the eye black; upper parts black bordered with olive green; lower parts, throat, and rump bright yellow; breast and sides strongly striped with black; tail black with the inner vanes of all *except* the middle feathers *white-patched midway*, leaving the terminal third black; a large white patch on the wing-coverts. Female similarly marked but the colors duller and less sharply defined. Nest generally in evergreen-trees, built of fine twigs, leaf stems, moss, and rootlets, lined with finer material of the same nature; it is generally from three to six feet above the ground. Egg white marked about the larger end with cinnamon brown and olive brown. This bird is common throughout eastern North America; it breeds from northern New England and Michigan north to Hudson's Bay, and south along the

crests of the Alleghanies to Virginia. Scott says he found the birds breeding at Mountain Lake, Giles Co., Virginia (the altitude of which is over four thousand feet), in the summer of 1889.

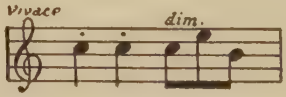
The song of the Magnolia is loud, clear, slightly like that of the Yellow Warbler so far as *tone* is concerned, and unique in the arrangement of the (generally) seven notes. The first four have a rising inflection, or an indefinite upward progression to the extent of a fourth interval, and among the next three the middle one is the highest; the song begins loud and ends with a diminuendo, thus:



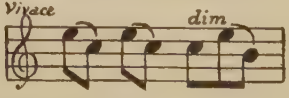
That is the form which I know best, and here it is according to my notation:



Once in a while a very indistinct high note is added to this form. Here is another common form which I think fits Rev. J. H. Langille's syllables exceedingly well, though possibly it is not exactly the song he heard:



Here is also another which fits one of Mr. S. E. White's series of syllables (see the *Auk*) perfectly:



There are probably five or six forms of the song, but I have none other than the three foregoing ones. It is evident from these and the testimony of several writ-

ers that the song nearly always ends with a falling inflection of the voice. Mr. White records a falsetto warble, *purr-a-e whu-a* which I have never heard.

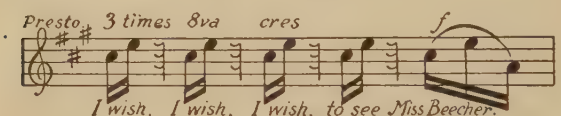
The Magnolia's summer home is among the evergreen-trees, and he may easily be found among the firs and hemlocks of old overgrown pastures, ever on the move, and seldom flying higher than the top of one's head. The species is a regular summer resident in parts of the White Mountains.

Chestnut-sided Warbler
Dendroica pensylvanica
L. 5.10 inches
May 8th

This handsome little bird is one of our commonest Warblers, and next to the Yellow Warbler the most familiar and interesting one though he is by no means as musical as the Black-throated Green. He is quickly identified by his costume. Top of head bright yellow bordered on the sides with black; a band of black, beginning between the eye and the bill, extends downward on either side of the throat; the sides of the face, the throat, and under parts are white; sides burnt sienna or chestnut; back of the neck streaked with black and gray; lower back black striped with greenish yellow; wings with two yellow-white bars; tail black with the inner vanes of the outer feathers white-patched near the tip. Female similar in markings but duller in color. Nest usually in a low bush; it is built of plant fibre, bark, rootlets, and leaf stems, and lined with finer material of the same nature. Egg white marked with cinnamon brown and olive brown mainly at the larger end. This bird is distributed through eastern North America as far north as Newfoundland and Manitoba. It breeds from northern New Jersey and Illinois northward, and along the Alleghanies south to South Carolina; it winters in Central America. Its chosen haunts are the overgrown pasture where bushes are plenty, bushy roadsides, the borders of woodlands.

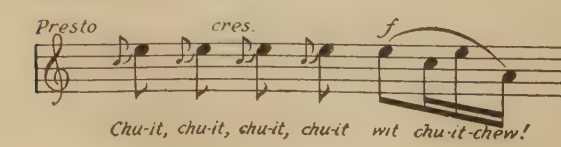
The Chestnut-sided Warbler has several forms of song, and it requires a discriminating ear to distinguish one of the commonest from that of the Yellow Warbler, the notation of which I have marked No. 2. But a careful comparison of these songs will show that there is no

need whatever of getting them confused. Here is one of those distinctions again which possibly some one may be inclined to classify among the hair-splitting order; if so, I must say it will be wholly because insufficient attention is paid to those graphic signs belonging to musical notation which a child could understand! Compare my notations. Here is the Chestnut-sided Warbler's song in dots: . · . · . · . · . · . and here it is in easily obtained musical form:



To use a trite saying, the difference between this and the Yellow Warbler song No. 2 is as plain as the nose on your face! One bird chirps *up*, the other *down*, for the first three or four double notes, then one bird sings a group of notes *down*, *up*, and *down*, and the other, *vice versa* (with absolute distinctness) *up*, *down*, and *up*! There is a slight hesitancy which one merely suspects in the Chestnut-sided's effort just before he reaches the group of the three final notes, so this I have properly indicated by the very short rest. Thus, we have, I believe, a perfectly simple analysis of a certain difference between two similar songs, which, for one reason or another, the ornithologists have been unable to give us. I need not add that without musical notation it would be practically impossible to prove the case. So much for the usefulness of scientific music in its relation to a bird's song!

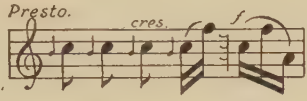
It is generally true that the song of the Chestnut-sided consists of seven (Mr. Jones seems to thinks *six*) syllables; but once in a while the little fellow disregards the rule and sings on this wise:



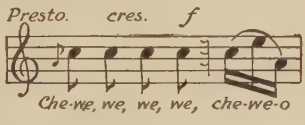
Bay-breasted Warbler

Chestnut-sided Warbler

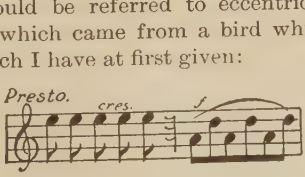
in that case he is practically rounding out the song without the suspicion of the pause noted in my previous record. Here is another form in which he retains both pause and extra note:



These are subtle differences which only a quick ear can detect and musical notation accurately express! As I have said in the beginning of this book, *time* is an all-important element of music, and there is no denying the fact that it occupies a very important place in precisely this part of the Chestnut-sided's song. Often when time is not concerned with difference in bird song, this difference becomes apparent in a certain method of delivery. For instance, the following transcription was obtained in Campton, June 26, 1899:

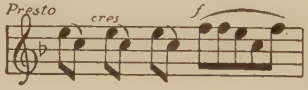


Nearly a year later, May 23, 1900, practically the same song was differently rendered by another bird in Arlington Heights, Mass., fully one hundred and thirty miles farther south; this song is my *first* notation herewith. A comparison of the two records will show that one bird pitched his first four notes higher than the other bird and at the same time *slurred* each one. But these fine points do not represent the only variations in this Warbler's song; there are some uncommon forms which doubtless should be referred to eccentric individuals. Here is one which came from a bird which *also* sang the form which I have at first given:



This type is so nearly like one belonging to the Yellow

Warbler that it is difficult to tell where the difference lies; but a certain hesitancy near the end of the Chestnut-sided's song usually betrays its author. Here again is another variation which shows that the bird had revised almost the whole structure of the *typical* song, and, regardless of the whole tribe of Warblers with all their musical traditions, had decided like the wilful Scotchman to "gang his ain gait":



I might say now, with Mr. Cheney, "match that if you can!"

The voice of the Chestnut-sided Warbler is only moderately clear, and is therefore far less penetrating than that of the Yellow Warbler. Such a tone, too, implied by the syllable *chew* or *cher*, reveals a quality suspiciously near the overtone. But, as a matter of fact, there is no real overtone present in any of the bird's notes. In a great number of the songs there are only six syllables, but these do not otherwise differ from the common type as I have represented it here. Miss Ethel Dame Roberts's "*tsee, tsee, tsee, Happy to meet you!*" is analogous to another popular saying of the bird, *I wish, I wish, to see Miss Beecher!* If there is any one who can whistle that lady's name better than the Chestnut-sided Warbler he must be a ventriloquist of exceptional ability!

Bay-breasted Warbler
Dendroica castanea
L. 5.70 inches
May 20th

This Warbler is a rather uncommon bird seen only during its passage to and from its home in the extensive coniferous forests of Canada. The year of the great migration, 1899, probably saw more of this species in unexpected places than any records will ever show. The bird is beautifully marked, in colors not unlike those of the Orchard Oriole. Crown, and entire throat, breast, and sides rich burnt sienna or chestnut,

lighter or darker; forehead and cheeks black; a pale buff patch on the sides of the neck; back ash gray streaked with black; two white wing-bars, and a patch of white on the inner vanes of the outer tail feathers near the tip; under parts white suffused with buff. Female with the crown olive green streaked with black and possibly chestnut; only a suggestion of chestnut on the throat and sides; otherwise duller in color than the male. In autumn male, female, and young birds almost exactly resemble the Black-poll Warbler, except the lighter green upper parts and the buff tone of the lower parts. Nest in evergreen-trees and situated at a Y branch from five to twenty feet above the ground; it is built of grasses and plant fibres, and lined with hairs and plant down. Egg white finely marked with cinnamon brown and olive brown mainly at the larger end. The range of this bird is through eastern North America north to Hudson's Bay; it breeds from northern New England north, and winters in Central America.

The Bay-breasted Warbler's song is still an enigma to me. The only time I ever saw the handsome little fellow he would not sing. Rev. J. H. Langille writes: "Their song, said to begin like that of the Black-poll and end like that of the Redstart, bears to my ear no resemblance whatever to either, but is a very soft warble, somewhat resembling the syllables *tse-chee, tse-chee, tse-chee, tse-chee, tse-chee,* but far too liquid to admit of exact spelling." Mr. Torrey thinks the song resembles that of the Black-poll, but says it is hardly so weak and formless.

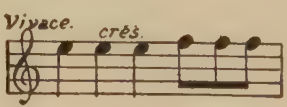
Black-poll Warbler
Dendroica striata
L. 5.50 inches
May 15th

This somewhat common bird resembles the Black and White Warbler in color, but its markings are altogether different. Crown black; sides of the head white; upper parts gray streaked with black; two white wing-bars, and the inner vanes of the outer tail feathers with white patches on the tip; under parts white streaked with black, the streaks conspicuous on the gray-white sides. Female olive green above streaked with black; under parts yellowish white. Nest in ever-

green-trees, and situated not more than six feet above the ground; it is built of twigs, moss, and rootlets, and lined with fine grasses. Egg white heavily spotted on the larger end with madder brown, cinnamon brown, and olive. The range of the bird is through eastern North America and northward; it breeds from New England northward to Greenland and Alaska, and winters in northern South America.

The Black-poll Warbler has a very thin voice and a monotonous song nearly confined to one tone, and resembling the rather more musical effort of the Myrtle Warbler. The notes are slightly characterized by an overtone, but are too stridulent in quality to possess any musical merit. Here is one of the only two records I possess:

The song begins with a crescendo and a slight diminuendo almost immediately succeeds. There is another form, which tolerably represents the syllables "*tsip, tsip, tsip, tsee, tsee, te*" of Mr. Lynes Jones. But I can not see that this differs materially from the form given in my first notation:



This warbler is a distinctive woodland character often heard rather than seen in the forests of the White Mountains, and partial to the upper branches of the trees, though he not infrequently visits the ground. My own observations in this respect are sustained by those of Mr. Torrey, who says he saw some feeding upon a lawn for a long time, during his visit to Chattanooga.*

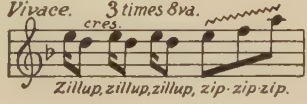
* Vide *Spring Notes from Tennessee*, page 96.

Black-poll Warbler

Blackburnian Warbler
Dendroica blackburniæ
L. 5.25 inches
May 15th

This may be justly considered the most beautifully colored bird belonging to the Family of Warblers, and it certainly can not be counted an uncommon one.* Middle of the head, a band over each eye extending well back, a patch behind the black ear-coverts, the throat, and breast, all brilliant cadmium orange; the rest of the head and the back black, the back streaked with cream white; wings black with white coverts forming a conspicuous patch; the inner vanes of most of the tail feathers white; the outer vane of the outer tail feather white at the *base;* under parts yellow white-tinged; sides streaked with black. Female marked like the male, but the orange extremely dull, and the upper parts gray olive streaked with dull white. Nest from ten to thirty (sometimes more) feet above the ground in evergreen-trees; it is built of fine twigs and grasses, and lined with moss, tendrils, fine rootlets, etc. Egg gray or pearl white thickly speckled with cinnamon brown and olive. The bird is found throughout eastern North America; it breeds from Minnesota and Maine north to Labrador, and south along the Alleghanies to South Carolina; it winters in the tropics. It prefers the coniferous woods where hemlock and spruce are plenty.

The song of the Blackburnian Warbler is a distinctly characteristic one; there are about three double chirps, succeeded by as many ascending notes with a distinct overtone, thus:



The tone of voice is wiry and thin, and the delivery is rapid. It would be difficult to get this song confused with that of any other Warbler, if strict attention is paid to its dual character. Mr. Torrey describes the song by the syllables "*zillup, zillup, zillup, zip, zip, zip,*" which,

* Mr. Ned Dearborn reports seeing not less than six in the same tree at once, in the vicinity of Durham, N. H.

it will be seen, exactly fit my notation; consequently, I suspect the bird has few if any variations to his song. Mr. Minot describes a form by syllables which may be slightly different: "*wee-see-wee-see, tsee-see, tsee, tsee, tsee-see tsee, tsee,*" but it is perhaps only a double form, if I read the two hyphened syllables *tsee-see* aright; naturally, I take them to be given quicker than the others.

Black-throated Green Warbler
Dendroica virens
L. 5.10 inches
May 5th

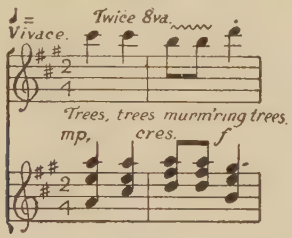
This is one of our commoner Warblers, and by all odds the finest singer of the whole group. At best his song is exceedingly brief and high-pitched, and his voice is thin; but one entertains little doubt about his intervals; they are tolerably good, and greatly help to make the well-marked rhythm attractive. The bird is also beautifully colored. Top of head and region nearly down to the shoulders yellow-green; a bar over the eye, the sides of the face and neck bright yellow; back olive green rarely black-spotted; ear-coverts dusky yellow; throat and breast jet black; two white wing-bars on each wing; the inner vanes of outer tail feathers entirely white, the outer web with a white base; under parts white sometimes suffused with pale yellow. Female similarly marked but the black largely reduced by yellow and rendered dusky. Nest in evergreen-trees and situated from ten to forty feet above the ground; it is built of fine twigs, rootlets, moss, and grasses, and lined with finer material of the same nature. Egg white spotted with umber and olive mostly at the larger end. The bird is distributed throughout eastern North America; it breeds from Connecticut north to Hudson's Bay, and at high elevations of the Alleghanies south to South Carolina. Its favorite tree is the pine, although it may be found in the deciduous woods quite frequently.

The song of the Black-throated Green Warbler is distinguished for its suggestive rhythm and its deliberate tempo. This bird is not in such a hurry as the others of the family, and his voice possesses the pleasing variety of contrast in tone. Of the usual five notes which h

Blackburnian Warbler

Black-throated Green Warbler

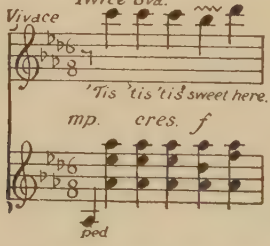
sings the two next to the last are burred, the others are clear. Mr. John Burroughs writes the song by a series of lines thus: ___ ___ V ——— which form, so far as it will answer the purpose of identification, can not be improved upon. But I shall always hold the opinion that a representation of *sound*, not to speak of song—wild or cultivated,—by other than scientific music signs, is an extremely dubious method of conveying ideas. For that reason, I have taken particular pains throughout this book to show the parallels of haphazard symbols and exact musical notations. The foregoing signs, therefore are properly interpreted this way:



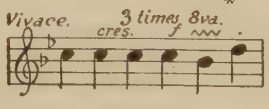
I have added the popular idea about the sentiment of a song; that will certainly help to emphasize the rhythm. If you whistle this song between the teeth, and *burr* the two notes next to the last by humming and whistling simultaneously, you will obtain a very tolerable idea of the Black-throated Green's song. It is surely unnecessary to add that the song must be whistled in the high register where it belongs in accordance with the instruction on my record, or one will not get a proper impression of it.

The song of this Warbler is really not without sentiment if one is caught in the proper mood, as the following form, obtained on one of the foot-hills of the Franconia Mountains, and the very common instance connected with it will testify. The day was a brilliant one of early June; the cumulus clouds lay piled away up in the north over the blue and jagged horizon line formed by Lafayette, the Notch, and Cannon Mountain; below, in the broad sunlit valley, the beautiful Pemige-

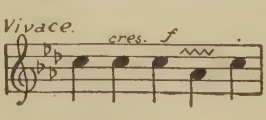
wasset wound its silvery way between the wooded hills and the spreading green intervale; the little hill on which I stood was carpeted with the rich rusty-brown pine needles of past seasons, and here and there a gray lichen-covered boulder cropped out from among the green ferns and the forest's russet floor. It was indeed a lovely spot. Some bright-faced, appreciative girl would have said, had she been present, "What a sweet place for a picnic!" Perhaps I thought so too, for, at the moment, I heard, among the green, swaying, sighing pine branches overhead, a tiny bird *distinctly* sing:



This, then, is a second frequent song of the Black-throated Green. Here is another rendering of the same song; it comprises a major third, instead of a *minor* third like the other, and one more note is added:

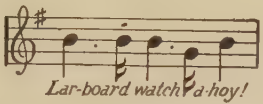


This came from the Arnold Arboretum. Here is yet another similar song from Arlington Heights, Mass., which is exactly like the record given by Mr. Cheney:

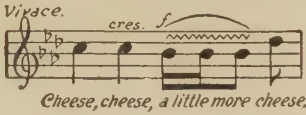


This, he likens to a bar of the familiar old sea song *Larboard Watch* in which the notes are dotted; that, how-

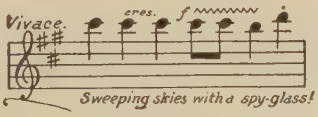
ever, is the only difference between the two bits of melody:



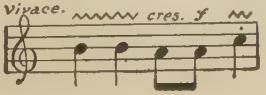
Then, again, I have an excellent song from Campton which suggests the one that the gastronomic observer set to strange, unbirdlike sentiments!



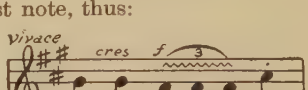
Perhaps there is a syllable wanting, but I find the Black-throated Green is not at all particular about *syllables;* in fact, he is not half so particular in observing them as the bird student is in limiting him to a certain number, for on May 6, 1902, at ten o'clock in the morning, I heard him singing amid the thick branches of a Norway spruce on the grounds of the Harvard Astronomical Observatory in Cambridge, this next sarcastic refrain, in more syllables than the law allowed! All but the music was imagination, but why did such an unusual song fit such significant words, in precisely this situation?



Evidently the Black-throated Green is not inclined to confine himself to one strict form either of time or melody. Besides the foregoing records, here are a sufficient number of others to prove the fact. Not infrequently he *burrs* the first two notes and clearly whistles the others, thus reversing his usual custom:



Again he will clearly enunciate *three* syllables in that part of the song (commonly burred) immediately preceding the last note, thus:



Probably this form is the one to which were originally applied the words, *trees, trees, murmuring trees,* and *cheese, cheese, a little more cheese!* But I am confident that the bird's commonest form of rhythm consists of but *two* rapid syllables preceding the last one. I say *rapid* because if one will strictly observe the bird's time it will be found that he sings these two or sometimes three notes in a space of time exactly equivalent to that of one of the other notes. And yet there are those who insist that a bird has no conception of rhythm! There are, then, entirely aside from melodic variation, four distinct rhythmic forms to this Warbler's song; here they are:

1. . . .. . *Trees, trees, murm'-ring trees!*
2. . . ... . *Sleep, sleep, pretty one, sleep!*
3. . . . . *Larboard watch a-hoy!* or *'T is, 't is, 't is sweet here!*
4. . . . . *Sweeping skies with a spy-glass!*

Pine Warbler
Dendroica vigorsii
L. 5.50 inches
April 15th

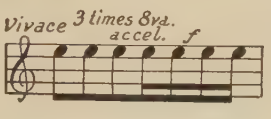
This bird has the Creeper's habit of clinging to the branches or trunk of a tree. It is a fairly abundant Warbler, but is one of decidedly local proclivities; it is scarcely found outside of the pine grove. The colors are not striking. Upper parts olive slightly suffused with gray; wings brownish gray tinged with olive, and with lighter edgings of gray; two dull white wing-bars; inner vanes of the outer tail feathers with white patches near the tip; throat and sides bright cadmium yellow fading into white on the under parts; sides of

Redstart

Pine Warbler

breast and region below the eye slightly black-striped, the stripes sometimes extending to the sides. Female similarly marked but much duller in color; the tone of the back browner. Nest in pines, cedars, or other evergreen-trees; it is usually situated more than twenty-five feet above the ground, and is built of bark, leaves, plant fibres, etc. Egg white with red-brown and umber markings mostly at the larger end. This bird is distributed throughout eastern North America; it is a resident of the great pine forests of the southern States; it winters from Illinois and the Carolinas southward.

The song of the Pine Warbler is a simple so-called trill—a reiterated note, with an exceedingly high pitch like that of the Chipping Sparrow. His voice is more musical, and his tones are sharp and clear, without a suggestion of the overtone; the song should appear thus:



A simple, short, rather musical one, but according to my observations without the shadow of a variation. I am not sure, though, that this bird does *not* vary his song; the Chippy does, and why should not he? My notations are extremely meagre, as well as similar, so I can not promise that there are *not* variations of the type.

Yellow Red-poll. Yellow Palm Warbler
Dendroica palmarum hypochrysea
L. 5.40 inches
April 20th

This Warbler according to Mr. Chapman is a renegade *Dendroica* who is indifferent to the wood and has no particular liking for even the trees in the open. The last time I saw him he was wagging his tail in a tree by the roadside in the Middlesex Fells, just north of Boston, entirely disdainful of my chirpings put forth in a vain effort to induce him to "tune up." In colors, he is a bit attractive though not startling. Crown chestnut; back olive green with a brownish tone, greener on the rump; no wing-bars; the inner vanes of the outer tail feathers

with white patches near the tip; eye-ring and a line over the eye yellow; lower parts bright cadmium yellow throughout; throat, breast, and sides streaked with bright burnt sienna or chestnut. Female similarly marked. Nest on the ground or near it; usually built of coarse grasses lined with finer ones. This bird is common in eastern North America and breeds from Nova Scotia north to Hudson's Bay; it migrates southward through the Atlantic States, and winters in the south Atlantic and Gulf States.

The song of the Yellow Red-poll is described as a simple trill like that of the Chipping Sparrow; but as I have always failed to discover the bird in a singing mood, I doubt whether his song is very often (in this part of the country) placed on the spring program. The colors of the Yellow Red-poll are very pretty, though, and his migratory visits so very common that I have ventured to include him in my list with the hope that at some future day he may be found with a voice. The tail is incessantly bobbing, so I do not doubt that he can keep time, and as well, perhaps, as a drum-major!

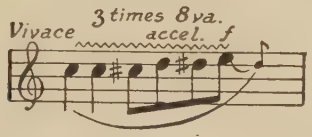
Prairie Warbler
Dendroica discolor
L. 4.75 inches
May 10th

This is one of the tiniest and most delightful common Warblers, with a characteristic song which runs up the chromatic scale. Only one other Warbler's voice is like it in this respect, and that belongs to the Black-throated Blue. The Prairie Warbler is tastefully but not conspicuously dressed. Upper parts olive green, with the back considerably spotted with burnt sienna or chestnut; wings and tail brownish olive; a single light buff-yellow wing-bar on each wing; inner webs of the outer tail feathers white almost to the tip; a bar of yellow above, another below the eye; in front of and behind the eye black; a broad black stripe extends from the corner of the bill across the cheek; the yellow sides are conspicuously barred with black; under parts light yellow. Female similarly marked, but duller in color and with little or no chestnut on the back. Nest in briers or other tangled bushes or young cedars in partly open ground; it is built of plant fibres and plan

Prairie Warbler Yellow Red-poll

down, and lined with caterpillar's silk and the fine fibre of grape-vine bark. Egg white spotted at the larger end with a variety of browns. This bird is distributed (perhaps unevenly) over the eastern United States; it breeds from Florida to Michigan and southern New England, and winters in Florida and the West Indies. Unlike most of the Wood Warblers, it frequents open places and bushy fields or clearings.

The song of the Prairie is a delightful little bit of a chromatic run, consisting of six or seven notes, all characterized by a distinct overtone, thus:



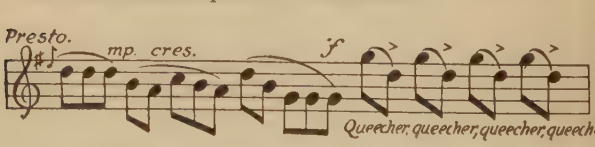
The time is moderate and slightly accelerated, all the notes are closely connected, and there is a perceptible drop of a semitone at the close of the song. At the same time the song is not like the harsh-toned one of the Black-throated Blue; the voice has a higher pitch, a far more lively movement, and it does not remind one of the mournful refrain of the young turkey as does the voice of the other bird.

Oven-bird
Golden-crowned Thrush
Seiurus aurocapillus
L. 6.20 inches
May 8th

This is the noisiest and least musical Warbler in the whole family; nothing less than a double *forte* mark will express his emphatic accents in musical notation. That character of his song ought to be sufficient for its immediate identification without a further description of its swinging tones. The colors of the bird are not unlike those of a Thrush, hence the popular name. Crown striped, the centre golden ochre bounded on either side by black; the upper parts generally light, brownish, olive green; no wing-bars nor tail patches; under parts white with strong sepia-black markings beginning at the corners of

the bill and extending downward either side of the throat to the heavily streaked breast; sides also streaked with sepia-black. Female similarly marked. Nest on the ground, bulky, and built in the shape of a primeval oven, covered, and open on one side; it is built of leaves, bark, grasses, and plant fibre, and lined with fine grasses and rootlets; it is generally situated in an open place just within or near the woods. Egg white speckled with a variety of ruddy browns. This bird is commonly distributed throughout eastern North America; it breeds from Kansas and Virginia northward to Manitoba and Labrador, and southward along the higher Alleghanies to South Carolina; it winters from Florida to the West Indies and Central America. The bird is a walker, and it has a characteristic way of wagging its tail as it walks.

The Oven-bird is a songster of indifferent merit; the remarkable musical effort that has been attributed to him while on the wing fails to impress one with its beauty from a *musical* point of view. Mr. Bicknell describes it as bursting forth "with a wild out-pouring of intricate and melodious song," and Dr. Coues calls it a "luxurious, nuptial song." It has the effect, in a very great measure, of the Bobolink's spontaneous outburst, but it has neither the force nor the tinkling glass quality of that remarkable musician's song. Here is the best of a half-dozen transcriptions I have made:



The structure is slightly similar to that of the song of the Warbling Vireo, but there the similarity ends. It is really remarkable for its spontaneity and exuberance beyond that I do not think it can be called extraordinary, as it certainly carries with it no suggestion of melody. The identification of the song is beyond any possibility of a doubt; listen attentively, and if you hear a wild, lawless kind of a song immediately suc

Maryland Yellow-throat
(above)

Oven-bird
(below)

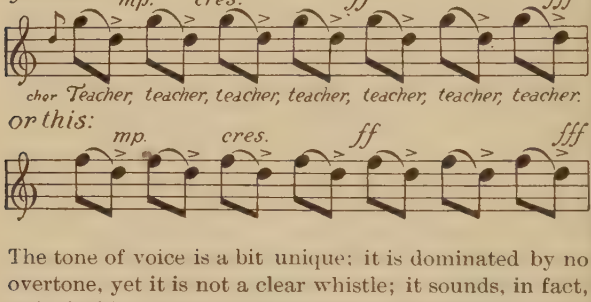
ceeded by a more moderate form of the noisy *queecher, queecher, queecher, queecher, queecher* of the Oven-bird, do not doubt for a moment that it is this fellow alone who has sung the whole song; the time, most likely, will be late afternoon just when the other birds are beginning to sing vespers! Mr. Torrey says, describing the song, the bird "takes to the air (usually starting from a tree-top, although I have seen him rise from the ground), whence, after a preliminary *chip, chip*, he lets fall a hurried flood of notes, in the midst of which can usually be distinguished his familiar *weechee, weechee, weechee.*" But whether these syllables occur most frequently in the middle or at the close of the song is an indifferent matter; it is sufficiently to the point to know that they are *bound* to occur. They have been excellently represented by Mr. Burroughs, on this wise:

Teacher, *teacher*, TEACHER, TEACHER, *TEACHER.*

Naturally we would accent that word on the *first* syllable, but I will leave it with any acute observer to say whether I am not right in insisting that the bird does nothing of the kind, but on the contrary lays particular stress on the second *syllable*,* thus: TEA-*CHER'*. "Here," I imagine some one will say, "is another of his hair-splitting differences!" Yet, for all that, I presume it will be admitted that one can not be too accurate in the statement of fact, and it goes without saying, facts must be carefully presented in their relation to bird music otherwise they may prove valueless. *Musically* considered that accent on the second syllable is of the greatest importance, for it enables me to express with perfect ease and accuracy the character of the Oven-bird's peculiarly noisy song; also, the slurs and the remarkable crescendo are so pronounced, that, regardless of tone or pitch, it is difficult to understand *how* the

* I notice Mr. Cheney's notation places the accent on the *first* syllable; but I am confident that the second syllable is the stronger one, and that a more extended study of the song by Mr. Cheney would have resulted in a shift of his accent.

bird's song can be adequately represented *without* musical notation. Here it is *:



The tone of voice is a bit unique: it is dominated by no overtone, yet it is not a clear whistle; it sounds, in fact, as if the bird threw it out from his cheeks rather than his lungs. I suppose most musicians would call it a "mouthy" tone notwithstanding its fortissimo character! The remarkable thing about it is its relation with the size of the bird. It is the case of a David with the voice of a Goliath! The woods fairly ring with the sound, and the voices of the other birds, for the time, are completely lost.

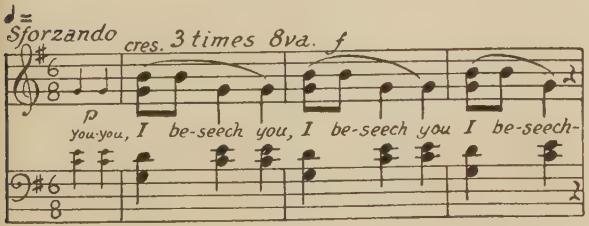
Maryland Yellow-throat
Geothlypis trichas brachidactyla
L. 5.30 inches
May 10th

This bird is certainly one of the commonest members of the Warbler Family. Its voice is heard wherever there is a bit of running water that finds its way through an impassable thicket. A sight of the bird is therefore less common than the sound of his voice. He is as beautifully marked as any other member of his tribe, and in the best of Spanish taste. He affects a harmony in black and yellow, with the black appropriately encircling his face! A black band crosses the forehead and covers the cheeks and ear coverts; it is bordered above and backward by

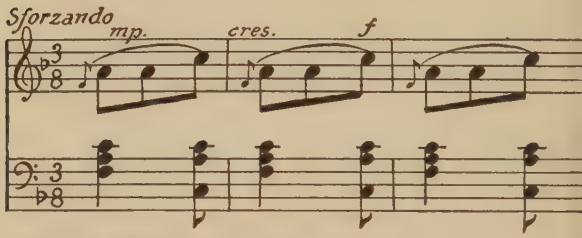
* I do not consider the musical interval of any consequence: some birds seem to sing a questionable third, others a fourth, and still others a fifth. The shift back and forth is more an extreme inflection of the voice than anything else, and it is very difficult to locate the terminating tones.

a streak of whitish ash; upper parts, wings, and tail olive green, slightly tinged with brown; there are no wing-bars nor tail patches; throat and breast bright yellow, lighter at the under parts; sides olive brown. Female similarly marked, but browner on the back, and with the black replaced by a brown-olive tone; yellow of throat also paler. Nest on or near the ground; built of dead leaves, strips of bark, and plant fibre, and lined with finer material of the same nature. Egg white and speckled mostly at the larger end with madder brown and umber. This bird's range is throughout eastern North America west to the Plains, and north to Manitoba and Labrador. It breeds from southern Georgia northward, and winters from the Gulf States to the tropics.

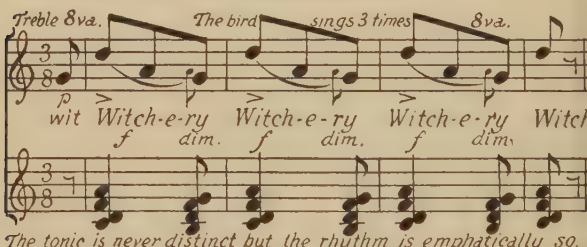
The familiar song of the Maryland Yellow-throat scarcely needs description. It is commonly composed of three syllables, rendered in a variety of ways. To wit: *Witchery, witchery, witchery!* or *Which-way-sir? which-way-sir? which-way-sir?* or *Wichity, wichity,* etc., or *Rapity, rapity,* etc., or *Which-is-it? which-is-it?* etc., or *What-a-pity, what-a-pity!* etc., or *I-beseech-you, I-beseech-you!* etc., etc. One is at liberty therefore to take his pick of the various sentiments. In any case the rhythm of the bird is remarkably exact and there is no missing the song. After hearing all the Maryland Yellow-throats about Boston and also the White Mountain region sing a trisyllabic song, I was delighted to find, one early morning in the Arnold Arboretum, one of Mr. Chapman's New York birds singing the four-syllabled *I-beseech-you* version, thus:



But the bird sang the song his own way, and did no conform strictly to Mr. Chapman's rendering on pag 371 of his *Handbook*, as my word accompaniment shows The commoner song of this Warbler is,

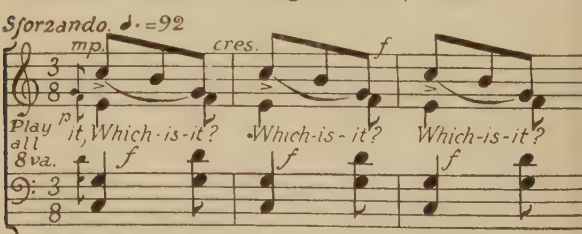


and still another less common form is,

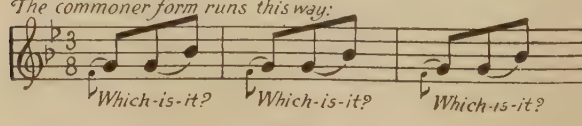


The tonic is never distinct but the rhythm is emphatically so.

Then in the *Which-is-it* form he often begins on a high note and descends, reversing the order, thus:



The commoner form runs this way:

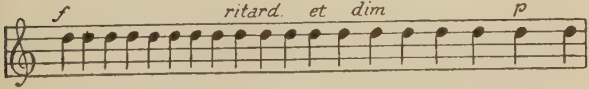


There is no more *tone* to this bird's voice than there is to that of the Oven-bird; consequently I can not say that the intervals as I render them represent true pitch. All I can promise is, that the swing of the Maryland Yellow-throat's voice is accurately reported in the shape in which it reached my ear.

Yellow-breasted Chat
Icteria virens
L. 7.45 inches
May 1st

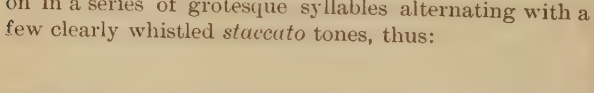
The Chat is the largest member of the Warbler Family, and an eccentric character in the largest sense of the word. His colors are bright. Upper parts olive green; a broad white line extends from the nostril over and back of the eye; region in front of and below the eye slaty black graded to olive; eye-ring white; throat and chest bright cadmium yellow fading to white on the under parts; sides gray-olive. Female similarly marked. Nest a rather bulky affair built of dead leaves, coarse grasses, and bark fibre well interwoven, and lined with finer material of the same nature; it is lodged in tangled undergrowth, near the ground. This bird is distributed from the Gulf States to Massachusetts and Southern Minnesota; it winters in Central America. It is shy, retiring, and chooses the dense thicket for its home. I find it fairly common in the vicinity of New York and southward, but I have never seen it near Boston.

The song of the Yellow-breasted Chat scarcely deserves the name, and it would be a hopeless task to give any truthful idea of it by means of the musical staff. In the line of music, he can, however, give us an excellent ritardando and diminuendo, a time arrangement exactly the reverse of that of the Field Sparrow; but one cannot call such a series of clucks musical:



It is proper to say of this performance that it is a combination of voice tones without either key or pitch. Certain strange and sudden monosyllables of the bird

sound exactly like, *Quirp! chuck! cop! chack! charr!* etc. These it is risky to place on the staff lest one should be led to think they were really musical tones. They are simply indescribable noises, that is all. Mr. Scott's remarks on the subject are quite to the point; he says, "such a mixture of curious notes is poured out as has no kind of parallel in our bird acquaintance. This is no soft melody that one has to be near to hear, but a series of loud, jerky, detached notes, now whistles, now chucks, and again croaks and chuckles that defy imitation, musical or otherwise." I might add that the bird frequently gives a number of clear whistles of accurate pitch; but these, though I place them on the staff, must prove to be such fragmentary bits of the song that it would be useless to depend upon them for purposes of identification. The fact is the Chat may be considered a mere chatterer whose flippant conversation is carried on in a series of grotesque syllables alternating with a few clearly whistled *staccato* tones, thus:



Hooded Warbler
Wilsonia mitrata
L. 5.60 inches
May 15th

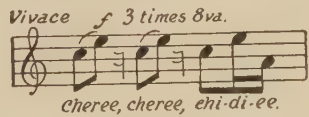
The Hooded Warbler, who in effect of coloring is almost exactly the reverse of the Maryland Yellow-throat, is so conspicuously marked that he can not fail to attract attention. His general appearance, in character at least, is so similar to that of the other bird that one is surprised to find the ornithologist's classification separates them by interposing the Chat. This Warbler's colors are yellow and olive accented by a jet black hood over the head, throat, and neck. Forehead and cheeks bright yellow; crown black with a bandlike connection at the neck with the black throat; upper parts including the wings and tail olive green; no wing-bars; the inner vanes of the outer tail feathers pale

Hooded Warbler

Yellow-breasted Chat

yellow; lower parts bright lemon yellow of a light tone; bill with bristles at the base. Female similarly marked but the colors dull, and the more restricted hood less sharply defined. Nest in a bush or small tree, and generally situated in a Y fork, a few feet from the ground; it is built of dried leaves, shreds of bark, rootlets, and grasses, and lined with finer material of the same nature. Egg cream white slightly spotted with ruddy brown thicker at the larger end. This bird is distributed through eastern North America as far north as southern Michigan and Ontario in the interior, and to southeastern New York and Connecticut on the seaboard; it breeds from the Gulf States north to the limit of the range, and winters in Central America.

The song of the Hooded Warbler is in no respect like that of the Maryland Yellow-throat; it lacks the powerful accent and the pointed rhythm of that bird's well-known *wichity, wichity*, etc. The Rev. J. H. Langille describes it in syllables thus: *che-ree, cheree, chi-de-ee*, and besides, gives another form that the bird sings at night of which I know nothing. Still another form is given by Mr. Jones, but it is evidently not the one which I know, for the syllables will not fit my notations; it runs thus: *che-weo-tsip che-we-eo*. The music which follows shows two slightly sustained syllables succeeded by about three short and rapid ones, thus:

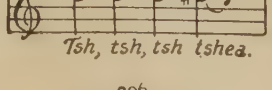


There is a drop of the voice at the end of the song which is similar to that in the song of the Chestnut-sided. As I have but this one record of the Hooded Warbler's song, and the bird seems to be so very uncommon as far north as New Jersey, it is impossible to say whether I have caught the typical song or not. Mr. Torrey gives no syllabic form in his writings, as far as my knowledge goes, but reports the bird very common in the country around Chattanooga, Tenn.

Wilson's Warbler
Wilsonia pusilla
L. 5.00 inches
May 15th

Wilson's Warbler, or Wilson's Blackcap as he is often called, is sufficiently common about New York and Boston to be included in the list of familiar Warblers. Except for the black cap he is not conspicuously marked. Forehead a slightly greenish yellow; crown black; upper parts bright olive green including the wings and tail; no wing-bars nor tail patches; under parts bright light yellow; bill with conspicuous bristles at the base. Female similarly colored but lacking the black cap. Nest on the ground generally in thin, swampy woods; it is built of leaves, grasses, and mosses, and lined with finer material of a similar nature. Egg cream white speckled with madder brown and pale madder purple (lavender). This bird is distributed throughout eastern and northern America, and breeds from the northern boundaries of the United States northward; it winters in Central America. This familiar little Warbler is the one most frequently found in the tangled undergrowth of swampy woodlands; he apparently prefers the damp woods near the water where he can easily capture on the wing the insects which form his natural prey.

The song of Wilson's Warbler is very short and similar to that of the Redstart; the bird's voice is thin and almost insectlike, the pitch is extremely high, and the quality is slightly suggestive of an overtone, though there is not enough of that to remind one in the remotest way of the Black-throated Blue's voice. Nuttall writes the song "*'tsh-'tsh-'tsh-'tshea*," which, in a measure, suggests the quality of tone, and the evenness of the rhythm, but it throws no light on what might be called the song's structure; that can only be properly expressed by notation, and the following is the nearest approach to its rather subtile though simple character:



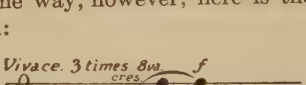
There is a slight upward inflection to the voice and a final drop. It is also a shorter song than that of the Redstart.

Canadian Warbler
Wilsonia canadensis
L. 56.0 inches
May 20th

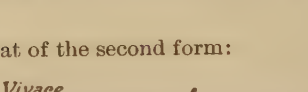
This beautiful Yellow-breasted Warbler with the black necklace is a familiar inhabitant of the lowland woods. Like his near relative, Wilson's Blackcap, he will always be found somewhere in the wet woods near the water. His markings are similar to those of the Parula Warbler, but he is a bird, as the saying is, "of another color." Upper parts slate gray, wings and tail with more of an olive brown tone; no wing-bars nor tail patches; a band from the bill to the eye, and the under parts bright yellow; crown spotted with black, and region below and behind the eye black; a necklace of black spots festooned across the breast; the adult male with conspicuous bill bristles. Female similarly marked but with dusky olive brown replacing the black. Nest on the ground, set on a mossy bank or among the roots of a protecting shrub; it is built of dead leaves, shreds of bark, moss, and rootlets, and lined with similar finer material. Egg white speckled with red or madder brown mostly at the larger end. This Warbler is distributed through eastern North America, ranging as far north as Newfoundland, Labrador, and Lake Winnipeg; it breeds from Michigan and Massachusetts northward to the range limit, and southward along the higher Alleghanies to North Carolina; it winters in Central, and northern South America. Although in the times of migration this bird will be seen in association with other Warblers, it is pre-eminently a retiring character, with fly-catching tendencies (it is not infrequently called the Canadian Flycatcher), and a decided preference for the wooded banks of streams.

The song of the Canadian Warbler is but slightly like that of the Yellow Warbler, though some writers seem to think the resemblance is strong. But I have long since called attention to the fact that these superficial similarities will not stand the test of thorough musical analysis. Compare my notations of the Yellow Warbler's

song with these of the Candian Warbler and I am sure further explanation or comment will be unnecessary. There are no two *tunes* alike, so the similarities must be confined mostly to quality of tone. The Canadian Warbler sings this way: _ _ _ ---- _ _ or this way: _ _ --- _ _ The lines express the rhythm in a very lame way, however; here is the notation of the first form:



and here is that of the second form:



Neither of these songs resembles that of any other Warbler; besides, the pitch of the Canadian's voice is much higher than that of the Yellow Warbler, the song is less melodic, and the *crescendo* comes just before the last two notes. The syllables recorded by Mr. Jones are, "*tu, tu, tswee tu tu.*" These seem to fit my second notation.

American Redstart
Setophaga ruticilla
L. 5.40 inches
May 10th

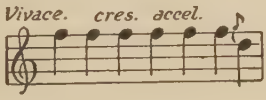
This little jet black Warbler with his vivid patches of salmon-scarlet possesses a scheme of coloring at variance with that of every other member of the Warbler Family. He strikes a discordant note, somehow or other, which sets us to wondering whether he really belongs where the ornithologist has placed him! Perhaps, however, we might find in South America some of his relatives who would supply the missing color links. The bird is a symphony in black and red; a subject for the brush of a Whistler! His upper parts, throat and breast are lustrous black; terminal parts of

Canadian Warbler
(above)

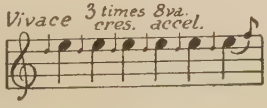
Wilson's Warbler
(below)

the wing feathers, two middle tail feathers, and the terminal third of the rest of the tail feathers black; other portions of these feathers and the sides of the breast and flanks scarlet-salmon or orange salmon; extreme under parts white tinged with salmon; bill with bristles at the base. Female, salmon color replaced by light ochre yellow; head brown-gray; back olive green with a gray tinge; under parts except where marked with dull yellow, gray white. There are birds whose yellow tones have a greenish cast. Nest in the Y of a young tree or shrub; it is lodged at a point anywhere from five to twenty-five feet above the ground, and is skilfully woven with plant fibres, leaf stalks, and fine rootlets, and lined with finer material of the same nature including plant down. Egg a blue-gray white speckled mostly at the larger end with cinnamon and olive browns. This bird is distributed throughout North America; it breeds from North Carolina and Kansas to Hudson's Bay, and winters in the West Indies and tropical South America.

The song of the Redstart is a very simple and monotonous one generally consisting of seven notes all of a kind, except the last one which is in most cases a drop of about a major third. It could be fairly represented by a series of dots, thus: . . . . . The musical notation does not look very different:



The voice is pitched very high, there is no overtone, and there is a slight crescendo and accelerando; but it is *very* slight. The song has few if any variations; the following record will show how slight they usually are, and how fixed the monotonous rhythm is:



I have found most writers express the song by a series of simple syllables which properly carry the idea of monotony with them. Mr. Chapman writes it "*Ching, ching, chee,*" and Mr. Jones, "*Che, che, che, che, pa.*" Evidently both are shorter forms of the song as I have recorded it above.

It is a comparatively simple matter to record any or all of the Warblers' songs on the musical staff *provided one can obtain them;* but it is an extremely difficult task to supply one's self with the immense equipment necessary to perform such work completely. It is an utterly discouraging thing for one who wishes to learn the songs, to have nothing but meaningless syllables to depend upon, and it is quite as discouraging to the one who desires to collect the music and incorporate it in its proper form on the musical staff, to find that he must travel from Dan to Beersheba and hear *thousands* of Warblers before he can be sure of his song types, and write authoritatively about the small matter of a score of species! So far, that has never been done, but no doubt it will be done—in time. If, therefore, some of my notations belonging to certain Warblers are meagre and unsatisfactory, the reason is obvious; after years of watching and waiting I obtained but little. But I am convinced that this little in true musical form is worth all the silly syllables that ever were invented by impressing our sensible English language for a service which it was certainly never intended to perform.

Family *Troglodytidæ*.

Mockingbirds, Thrashers, Wrens, etc.

In this family are the Mockingbird, Catbird, and Brown Thrasher, all distinctively American birds, and the Wren. It is a significant fact that their music is very similar, although the songs of the Wrens are decidedly fluent, and in this respect different from the hesitating, halting character of those of the other three birds.

Catbird
Galeoscoptes carolinensis
L. 8.90 inches
May 8th

The Catbird, from the musical point of view, is the northern representative of the Mockingbird. His song is only remarkable for its splendid style; neither in melody nor rhythm (excepting its characteristic hesitancy or interruption) does it show any adherence to rule.

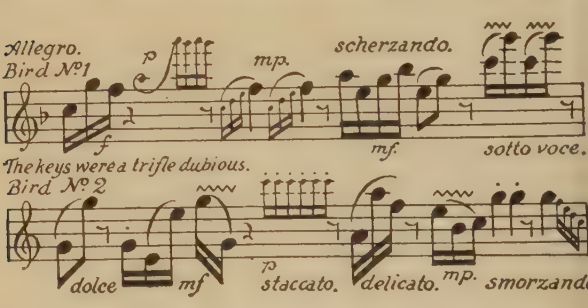
The colors of the bird are rather sombre. Top of head and tail sooty black; general coloring slate-gray; under tail-coverts chestnut, or burnt sienna of a ruddy tone; eyes brown. Female similarly colored. Nest built in the Y branches of small trees or shrubbery—often the lilac and elderberry; it is bulky, loosely woven with twigs, roots, grasses, etc., and lined with finer rootlets and grasses. Egg deep blue-green, unspotted.

This bird is common throughout North America; it breeds in the eastern United States from the Gulf States northward to New Brunswick and the Saskatchewan, and winters from Florida southward.

There is a certain lawless freedom to the song of the Catbird which invests it with a character essentially wild. The bird does not appear to entertain any regard for set rhythm; he proceeds with a series of miscellaneous, interrupted sentences which bear no relationship with one another. The fact is, he is an imitator, and possibly does not know himself exactly what he is talking about, or what impression he will embody in "the next line." He can imitate anything from a squeaking cart-wheel to the song of a Thrush. He intersperses his melodic phrases with quotations from the highest authorities—Thrush, Song Sparrow, Wren, Oriole, and Whip-poor-will! The yowl of the cat is thrown in anywhere, the guttural remarks of the frog are repeated without the slightest deference to good taste or appropriateness, and the harsh squawk of the old hen, or the chirp of the lost chicken, is always added in some *mal-à propos* manner. All is grist which comes to the Catbird's musical mill, and all is ground out according to the bird's own way of thinking.

To set his music on paper in a thoroughly complete manner one would need to write the score of Nature's orchestra, and a correct record of the scope of his voice

would necessitate the employment of both treble and bass staffs. His song is no ordinary one; it is like some long rigmarole the drift of which is humorously incomprehensible, though the bird apparently considers his remarkable strophes both serious and important. Listen to him sometime while he is singing in the shadowy tangles of the briers and willows through which winds the brook with gurgling, petulant impatience, and you will hear some unmistakable tuneful expostulations persuasions, and remonstrances, nearly half of which are delivered *sotto voce*, and the rest with emphatic insistence on some point which the bird considers vitally important. When he has finished you will wonder what it was all about — whether he was telling the brook that such fretful slipping over the pebbly shallows was an undignified and needlessly noisy proceeding. But the music is no index to the sentiments of the bird; the drift of his remarks still remains a mystery even if one reads with ease this simple notation:



Some of the notes are like those of the Robin, others resemble those of the Red-eyed Vireo, and still others those of the Chat. But the Catbird's music is all his own; he *suggests* the songs of various birds—never delivers the notes in their way! His voice is not as strong as that of the Thrasher, nor can he sing as well as that bird, but his song is refined, sprightly, and interesting although disjointed, jumbled, and lacking in melody. His catlike

M-e-^{o}-ou-u! every one knows, but not all are familia

Catbird

with that remarkable and lively medley, strenuously continued at times for two or three minutes, which is indeed his love song. He is a bird with an uneasy and restless disposition, shifting his perch, dodging between the leaves, bobbing his tail up and down, raising his crest, puffing out his feathers, and otherwise showing his disapprobation of the intrusion on his private grounds whenever you approach to watch him. His only note at such a time is the harsh and nasal *meou* so suggestive of the cat.

Brown Thrasher
Toxostoma rufum
L. 11.25 inches
May 1st

The Thrasher, sometimes called the Brown Thrush, is one of our finest singers whose music is a medley of rapidly repeated tones not unlike those of the Catbird. His color is a refined and delicate brown. Upper parts, wings, and tail light sienna brown; wing-coverts tipped with dull white; under parts white heavily streaked with black-sepia except on the throat and extreme under parts; eyes yellow. Female similarly marked. Nest built of coarse twigs, grasses, and leaves, lined with fine rootlets and plant fibres; it is generally placed on or near the ground, but sometimes high in bushes, and not infrequently in low branches of trees. Egg blue-white finely speckled with sienna brown. This bird is distributed through eastern North America as far north as New Brunswick; it breeds from the Gulf States northward, and winters from Virginia southward.

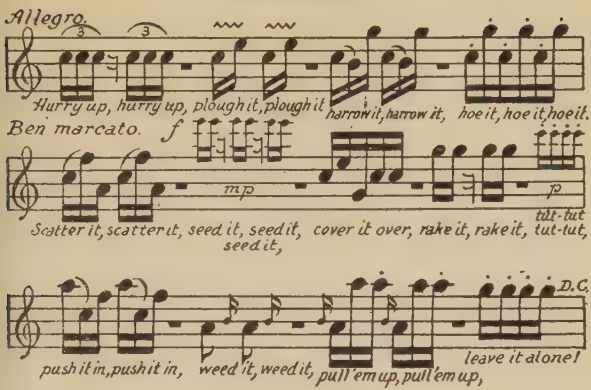
The voice of the Brown Thrasher is so similar to that of the Catbird that one might be easily mistaken for the other; but there is an unvarying difference between the songs of the two birds: the Thrasher *repeats* his notes and the Catbird does not. Hence, we find the report in various books that the Thrasher advises the farmer about his various duties in emphatic insistence, thus:

"Shuck it, shuck it; sow it, sow it;
Plough it, plough it; hoe it, hoe it!"

Again, the voice of the Catbird generally comes from the thicket, perhaps near some meandering streamlet, and to *see* the fellow sing is indeed a rare treat, for he does not fancy being watched. But with the Thrasher conditions are reversed; his voice comes from one of the topmost branches of a tree on the meadow where he holds a conspicuous position and commands an extensive outlook. He does not care in the least whether you observe him or not; the business of song is too important a matter to brook interruption, so he proceeds in an energetic manner with an eye on you and a mental reservation, perhaps, to be on guard lest you approach *too* near, and finally finishes the task in hand as though it were a good thing to get it off his mind in thoroughly complete shape, without haste and without rest. Mr. Cheney seems to think he sings in a fine frenzy of inspiration; he says, "As the fervor increases his long and elegant tail droops; all his feathers separate; his whole plumage is lifted, it floats, trembles; his head is raised and his bill is wide open; there is no mistake, it is the power of the god. No pen can report him now; we must wait until the frenzy passes." That is an exceedingly good pen description of the bird in the attitude of singing, which it would be idle to attempt to match. Watch the graceful little musician as he performs, and note his complete absorption in the music; his long, slender bill is wide open, his head is thrown back, and his notes are poured forth in rapid succession; his pauses are rhythmical and almost exactly in accordance with metronome time; his notes are in groups of two, three, four, and even five, nearly every group is repeated once, and each one is in a voice register sharply contrasting with the other; he sings high and he sings low, sometimes with an overpowering overtone, other times with a clear and liquid whistle; every one of the note-groups resembles some portion of the Catbird's song, yet each is delivered in a manner altogether too loud and emphatic to keep one long in doubt as to the singer.* My notation shows repeated phrases and rhythmic pauses.

* Read also what Mr. Bradford Torrey has so charmingly written of the song on page 117 of *Birds in the Bush*.

Brown Thrasher


Allegro.
Hurry up, hurry up, plough it, plough it
harrow it, harrow it, hoe it, hoe it, hoe it.
Ben marcato.
f
mp
p
tut-tut
Scatter it, scatter it, seed it, seed it, seed it,
cover it over, rake it, rake it, tut-tut,
D.C.
push it in, push it in,
weed it, weed it,
pull 'em up, pull 'em up,
leave it alone!

The Catbird's song, on the other hand, is distinguished by a greater versatility and refinement of style; there is a pleasing confidential quality to it, also, which flatters one into thinking it was meant wholly for one's self and not for the public at large. Now the Thrasher takes to the top of the big tree with an evident intention to address the whole world—or as much of it as he can see! There he sings his phrases exactly as the poet has said:

"That's the wise thrush: he sings each song twice over,
Lest you should think he never could recapture
The first fine careless rapture!"

Family *Paridæ*. NUTHATCHES AND TITS.

In this family are included two subfamilies, the *Sittinæ*, Nuthatches, and the *Parinæ*, Titmouse and Chickadees. The Nuthatches are climbing birds which creep down as well as up, and unlike the Woodpeckers do not use their tails as supports. These birds as well as the Chickadees have a habit of wedging seeds or nuts in the crevices of bark and cracking the shells thus securely held, with repeated pecks of their bills. The Nuthatches are entirely unmusical; but the Black-capped Chickadee has an extremely sweet and melodious though simple whistle.

White-breasted Nuthatch
Sitta carolinensis
L. 6.00 inches
All the year

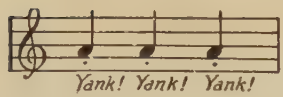
This active and sprightly little Nuthatch is one of our common winter birds; he is in frequent association with the Chickadee and the Downy Woodpecker, and one may look for him along with the companies of these birds which frequently "turn up" suddenly and unexpectedly in the fall season when most of the feathered tribe have long since flown south. The White-breasted Nuthatch is a charming little symphony in modest gray, black, and white. Over his head extends a glossy black cap which reaches down to the back; upper parts bluish gray, the wings a dusky gray with the inner secondaries blue-gray marked with black; wing-coverts tipped with dull white; middle tail feathers gray, outer ones black with white patches near their tips; sides of head and under parts white; the extreme under parts and under tail-coverts washed with faint Indian red. Female similarly marked, but the black cap suffused with the bluish gray of the back. Nest in a hole of a tree or stump, sometimes the deserted quarters of a Woodpecker; the cavity is lined with grasses and feathers. Egg cream white thickly and evenly flecked with various browns. This bird is common throughout eastern North America; it breeds from Georgia north to Minnesota and New Brunswick, and is generally resident throughout that range. The Red-breasted Nuthatch is a much smaller bird, but 4.55 inches long, and is easily distinguished by the white stripe which extends backward just above the eye, and the sienna brown washing over the under parts. The note of this Nuthatch is also different from that of the other bird; it is characterized by a higher-pitched nasal *nyaa, nyaa* delivered in slower *tempo*.

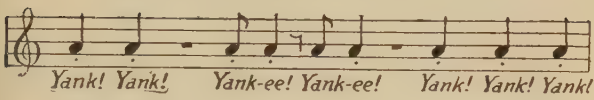
The Nuthatches have no song; their call-note is a decided nasal monotone of an extremely low pitch compared with the whistled notes of the other birds. The White-breasted's *yank, yank, yank*, is, as nearly as I can locate such a peculiar tone, somewhere near the first A, or B, above middle C * on the piano keyboard, thus:

* My diagram in the musical key shows the note of this Nuthatch

White-breasted Nuthatch

CHICKADEE.





The tone is a clear falsetto, best imitated by pinching the nose and singing the note *staccato*, with as much of the nasal quality as one can put in it. That is about all that can be said about this bird's remarkable voice except that it is really much lower than that of any of the woodland singers, and much nearer the sonorous nasal twang of the 'way-down-East Yankee farmer's wife when she lifts up her voice to call "Dan," the boy who goes for the "Caows."

But what a plucky little sprite this tiny, animated bunch of gray feathers is, that he can brave our severe northern winters with impunity! Even as I write this book he has been cavorting about the trunk of the old elm just beside the window, with the mercury indicating a degree or two above zero! One wonders what he expected to find good to eat!

Chickadee
Parus atricapillus
L. 5.25 inches
All the year

The Chickadee is an all-the-year-around bird, attractive in appearance, lively in movement, and more than pleasing in the simplicity of its song. The top and the back of the head well down are jet black; throat also black; sides of the head and neck white; breast and under parts graded from white to a buffish tone; back and other parts an ashen gray, with the larger feathers of wing and tail margined with white. The sexes do

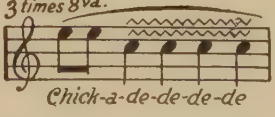
an octave higher than the reality. This was an accident: the black dash should have been the *other* side of the name.

not differ in coloring. Nest generally in a hole (often excavated by the birds themselves) in a post, stump, or tree-trunk, perhaps ten to fifteen feet from the ground; it is built of moss, grass, feathers, plant-down, or similar soft material. Egg white spotted with ruddy brown. The bird is common from Illinois and Pennsylvania northward. It breeds throughout this range and along the higher Alleghanies as far south as South Carolina.

The entertaining little Black-capped Chickadee is a favorite among all bird-lovers, and with good reason. Few of our wild birds are so sociable, fearless, and responsive. Whistle to the little fellow and he invariably replies; one might whistle all day to the Oriole without eliciting the slightest response. Call the Chickadee in winter, show him that you have something good to eat, and eventually with patience and cautious quietude on your part he will feed from your hand; that is more than can be done with the Oriole. This is the bird, too, who braves the winter's cold, and makes himself at home in the dooryards of New England farm-houses, the one of whom Emerson wrote,—

> "This scrap of valor just for play
> Fronts the north wind in waistcoat gray,
> As if to shame my weak behavior."

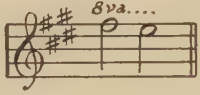
He gets his name, of course, from his rather squeaky and harsh call-notes; every child knows them, *chick-a-dee-dee-dee-dee* which, however unmusical, could be placed upon the treble staff thus:



There is no certainty about pitch in such mixed tones as these, but there *is* an absolute mechanical rhythm which is readily transcribed upon the music bars. For instance; one must know without a knowledge of music

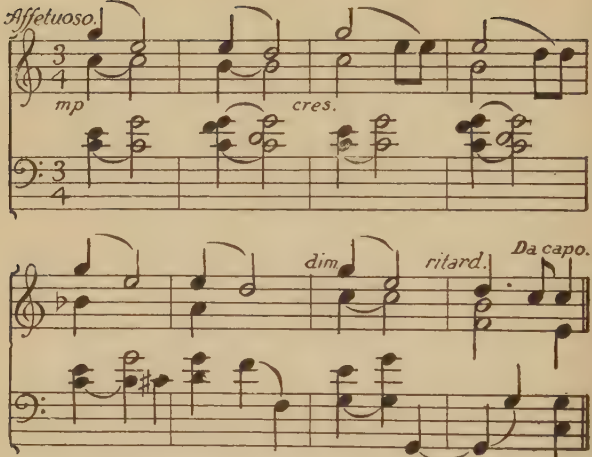
Chickadees

or the rhythm of verse that a person would naturally pronounce the syllables "chick-a" exactly twice as fast as the "dees." In illustration of this, tap on these dots with a pencil . . . . . and you will get the true relative value of the syllables "chick-a-dee-dee-dee-dee." "Lisp" the first two notes between the teeth and *combine* a hum with a lisp for the other four, and you have the Chickadee's call. The *song* of the bird is entirely different,

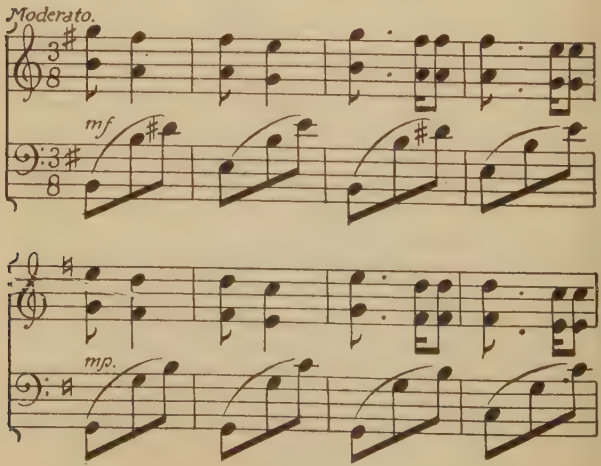


and is often mistakenly attributed to the Phœbe; but poor tuneless Phœbe is intellectually incapable of such a perfectly musical bit as this. Mr. Cheney says of these two notes, "never were purer tones heard on earth." Indeed, few small birds whistle their songs as clearly, and separate the tones by such lucid intervals. The charm too of the Chickadee's singing lies in the fact that he knows the value of a well-sustained half-note, another point which should be scored in the little musician's favor; and truly, in this regard he is far ahead of the Canary, for the latter wastes his energy splitting into hemi-demi-semi-quavers every tone within the compass of an octave.

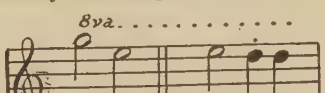
I may be overestimating the value of a melody so meagre as that of the Chickadee, but if so it becomes difficult to account for the charm that underlies the music of all great composers, for constructively considered their melodies are mere elaborations of absolutely simple themes. No better illustrations of this fact can be produced than those I have introduced among the pages in this book devoted to the Song Sparrow. The best way to prove the musical value of the Chickadee's two or three pure tones, is to connect together a few such as one may easily obtain from three or four birds which are singing together in their customary, delightful, antiphonal way. This is what I make of the fusion:



As all bird songs are really so many love songs, it certainly seems as though the character of this particular ditty satisfactorily sustains the general principle. This is not the only theme, either, which the birds can give us; here is another which will be found quite as common:



The Chickadee is a noisy, restless little acrobat as well as an educated musician, and his appearance with a dozen of his fellows in the pine-tree near my cottage is the signal for a circus performance with an orchestral accompaniment, including (if it is the fall season) the penny-trumpet tones of a friendly Nuthatch or two. There is at once a Babel of squeaks and chattering, and an obligato *yank, yank* which announces the entry in the ring of Mr. White-vested Nuthatch, who proceeds at once to walk upside-down! Then the nimble Chickadees shake up the old pine-tree into active life until every green needle quivers with excitement, and the little gray-costumed tumblers are at it with all the sprightliness of which they are capable. That means that most of them are wrong end up, the others are balancing sideways, and that while you are endeavoring to adjust your opera-glass every one has turned a summersault and flown to the other side of the tree, after having devoured every insect's egg that could be found on the nearer side! It is a lively performance and the "band" continues the squeaks and the "dee dees" until you interpose the magic influence of two pure whistled high tones, when there is a momentary pause and you are answered—probably in analogous tones:



I have more than once persuaded the Chickadee to drop his *own* notes and adopt mine, but I have never yet been able to inveigle him back again to the first ones.

Wilson says of the Chickadee;—"it has been found on the western coast of America as far north as lat. 62°; it is common at Hudson's Bay, and most plentiful there during winter, as it then approaches the settlements in quest of food. Protected by a remarkably thick covering of long, soft, downy plumage, it braves the severest cold of those northern regions." In Central Park, N. Y., in the Arnold Arboretum, near Boston, in the White Mountains, and in the vicinity of Gloucester, Mass., Chicka-

dees live all the year around and some may be found fearless enough to eat from one's hand. Not long ago I received a snap-shot picture of the little bird perched upon the hand of the good Hermit of Gloucester, a man who is on intimate terms with the birds of that region. This particular little fellow had more wits than one would naturally attribute to such an insignificant bunch of feathers, and when, one cold winter's day, the friendly hand offered him some much-prized hemp-seed he gladly accepted the invitation, and attempted to wrestle with the big, hard slippery things; but he was so unsuccessful that several were lost in the snow. Then the little fellow resolved to take no more risks, so he carefully took the next seed in his bill, flew away to a neighboring tree, jammed it firmly in a crevice of the bark, and pegged away at it until the hard shell was broken and he obtained the sweet meat within! That is indeed living by one's wits!

Family *Turdidæ*. THRUSHES, ROBIN, BLUEBIRD, ETC.

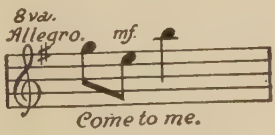
This large family includes about three hundred species. About one half of these represent the true Thrushes. Of the Thrushes some twelve species are found in the United States, four of which are tolerably though locally common. The Thrushes are distinctive woodland birds, some of them retiring to the fastnesses of the northern forests and choosing high altitudes for their breeding places. As musicians all are singularly gifted, and in the case of the Hermit Thrush we are in possession of the most talented and brilliant melodist in the world, the Nightingale not excepted.

Wood Thrush
Hylocichla mustelina
L. 8.25 inches
May 10th

The Wood Thrush is the most strikingly marked member of his tribe, and certainly one of the sweetest of singers. His coloring is more pronounced than that of the other Thrushes. Upper parts cinnamon or sienna brown, brighter on the head, and merging gradually into light olive-brown on the tail; under parts white conspicuously marked with large round sepia-black spots; throat

white defined on either side by a line of small spots extending from the bill to the markings on breast. Female similarly marked. Nest usually in young trees or saplings, and lodged from eight to ten feet above the ground; it is built of twigs, roots, and dead leaves; an inner wall of mud is lined with fine rootlets and shreds of plant-stems. Egg green-blue like that of the Robin. This Thrush is distributed over the eastern United States westward to the Plains, and northward to Minnesota, Michigan, Ontario, Quebec, Vermont, and southern (rarely central) New Hampshire. It breeds from Kansas, Kentucky, and Virginia northward, and winters in Central America. I have heard the Wood Thrush sing along with the Hermit Thrush on the slopes of Mt. Monadnock, and not infrequently his voice is a familiar one in the vicinity of Lake Winnepesaukee, and as far north as Franconia and Jefferson, N. H.

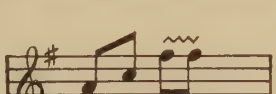
There are very few of the woodland singers that are equally gifted with the Wood Thrush; only the Hermit excels him in melody and in brilliant execution, and it is a question whether any of his other relatives can rival him either in tone of voice or in song motive. His notes are usually in clusters of three, and these *are of equal value**; the commonest one of the clusters is an admirable rendering of the so-called tonic, the third, and the fifth tones, thus:



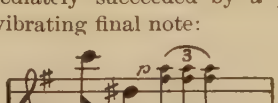
That is one of the best things the Thrush can do, and he does it splendidly too; there is no doubt about his intervals; they compose a perfect minor chord. After a pause of a second or two the bird supplements the minor with the major form a third lower, thus:

* The Hermit, on the contrary, sustains his first note and follows it with a series of rapid and brilliant ones.

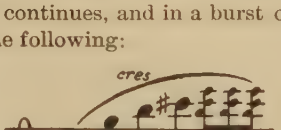
Then after that comes something like this, with the last note doubled:



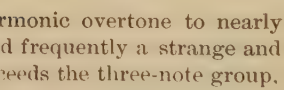
which is immediately succeeded by a pretty relative phrase with a vibrating final note:



Still the singer continues, and in a burst of feeling rapidly reels off the following:



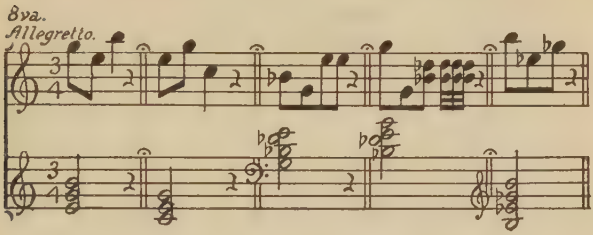
There is a harmonic overtone to nearly all the notes of the song, and frequently a strange and vibrant if not harsh tone succeeds the three-note group, thus:



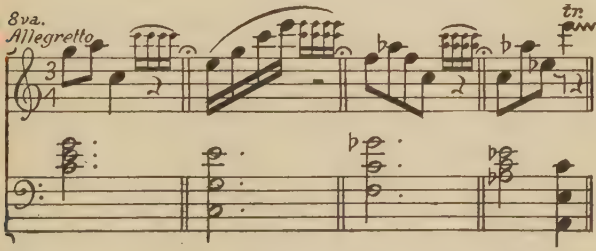
It is difficult to explain the nature of a voice so peculiarly musical; undoubtedly the Thrushes possess extremely short and extremely long vocal cords, and probably the latter are vibrated along with the former thus producing a singular effect of harmony. The rapidly repeated resonant note which frequently completes a phrase has a distinct metallic ring which strongly re

minds one of the musical ripple of the blacksmith's hammer as it bounces upon the anvil between the blows dealt to the red-hot horse-shoe. Could it be possible that the ancestor of this Thrush learned his song near the doorway of Mime's forge!

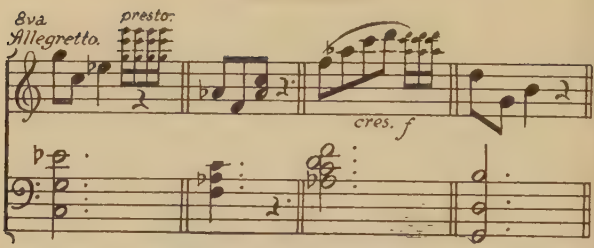
If one strings together a succession of the Wood Thrush's triplets the result is rather pleasing:



and not altogether different from the following song which was obtained in Englewood, N. J., on Hillside Avenue:



The song of a bird which I listened to in the Arnold Arboretum, near Boston, is not essentially different from either of the above notations:



This goes to prove that the essential character of the Wood Thrush's song is the *comparative even value* of the first two of the three notes which constitute its common form. No other Thrush sings exactly that way; the Hermit's notes are not even, and those of the Olive-back although even are not limited to three.

The Wood Thrush is the one who sings in the vicinity of New York and south of that point, indeed, I might just as well say the rule also applies to Boston; but then, both the Hermit and the Olive-back are occasionally heard about the latter city *en passant*, and I very much doubt whether one is likely to hear either bird around New York or a considerable distance north of it. The comparative merits of the Thrushes as singers are, in a great measure, a matter of opinion; but it is a question whether such a brilliant vocalist as the Hermit can be relegated to a second place relatively with any woodland singer in the world. The best proof of that bird's superiority may be found among the succeeding pages where musical notations seem to make the truth very plain. The facts of the case, however, do not in any way disparage the splendid *vocal* ability of the Wood Thrush; his music steals upon the senses like the opening notes of the great Fifth Symphony of Beethoven: it fills one's heart with the solemn beauty of simple melody rendered by an inimitable voice! No violin, no piano, no organ confined to such a limited score can appeal to one so strongly. The quality of tone is indescribably fascinating; it is like the harmonious tinkling of crystal wine-glasses combined with the *vox angelica* stop of the cathedral organ. The song suggests divine inspiration; to quote Mr. Cheney, "in a moment one is oblivious to

all else, and ready to believe that the little song is not of earth, but a wandering strain from the skies." John Burroughs, in *Wake, Robin*, calls it "golden and leisurely." Certainly one is hypnotized by such music as that, and even circumspect Mr. Torrey is captured and writes admiringly about the surprising "drop to a deep contralto," calls it "the most glorious bit of vocalism to be heard in our woods," and records, apparently with the delight of a musician, "the tinkle or spray of bell-like tones at the other extreme of the gamut"*; and for my own part I think the rest of us must agree with him!

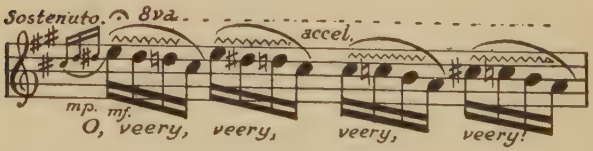
Veery. Wilson's Thrush Tawny Thrush *Hylocichla fuscescens* **L. 7.40 inches May 10th**

This Thrush is very easily distinguished from all the others by the unique character of both its coloring and song; the former is a peculiar tan-brown, the latter is a strange combination of slurred overtones. The bird is shy and has been popularly dubbed "the skulking Veery." His markings as well as his colors are in strong contrast with those of the Wood Thrush. Upper parts including wings and tail a light golden brown like raw sienna; under parts including the throat white, with a delicate tinge of buff on the sides of both throat and breast; small wedge-shaped sienna spots also define the borders of throat, and are sprinkled over the upper breast; sides white with a light tint of gray. Female similarly marked. Nest on or very near the ground; it is built of dead leaves, shreds of bark, and roots, and lined with finer rootlets and dried grasses. Egg like that of the Wood Thrush, light green-blue. This bird is common in eastern North America as far north as Newfoundland and Manitoba; it breeds from northern New Jersey northward, and southward along the Alleghanies to North Carolina; it winters in Central America. The situations preferred by the Veery are the thick damp woods beside the river's brink, and the dense undergrowth of low woodlands; sometimes the bird chooses a high, wooded knoll, but it is generally very near the water.

* Vide, *Footing it in Franconia*, page 118.

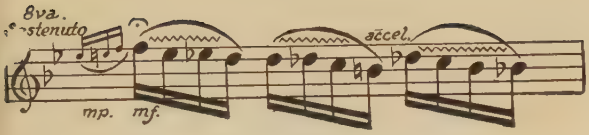
The song of this Thrush with which Wilson himself is apparently unfamiliar, though the bird was named for him, is a most remarkable and beautiful *glissando* of overtones, without melody, and in a measure without definite pitch.* The tone effect at a distance is like the metallic twang of the Jew's harp; nearer by it resembles a reedy, harmonic strain from an accordion swinging in the air. Some one, I do not know who, has called the song "a spiral, tremulous silver thread of music." The song is generally composed of, first, a pianissimo upward run of, perhaps, a minor third (a purely preliminary one), second, a downward chromatic run repeated once, and third, another downward chromatic run, apparently beginning a minor third or maybe a major third below the other, and also repeated; the run in both cases is an indefinite one; it might include a third, a fourth, or even a fifth. The song could be represented in curving lines, thus:

but I think it can be clearly and logically expressed in musical notation, thus:

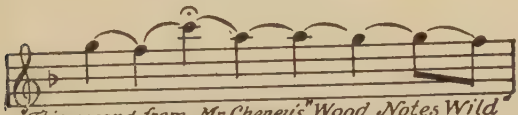


To be sure there are variations of this form; for instance, I have often heard a song with four, instead of five, divisions, and with each of the three divisions succeeding the first dropping approximately a third, thus:

* The fact that this Thrush sings far on into the evening hour has, through popular misapprehension, earned for it the strange title, American Nightingale!

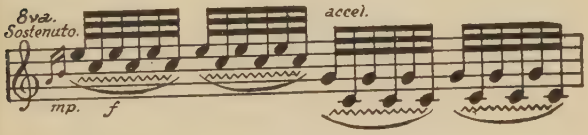


Apparently this is the form recorded by Mr. Cheney, thus*:



This record from Mr. Cheney's "Wood Notes Wild" simply shows a different method of notation.

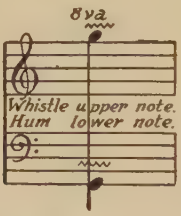
But the general principle remains the same; the swinging slurs are there, and so is the sustained, deliberate high tone, and the pianissimo introduction. I have also heard another variation involving a complete change in the relationship of the tones; in this instance the Veery dropped the chromatic scale and adopted in its stead distinct intervals:



The tones were bell-like and resonant, in fact, the singer was the best of his kind I have ever heard. There is a predominant overtone to all of the Veery's notes, he never whistles a perfectly clear tone unless it is that of his call-note, the rather softly rendered *whieu*, but even this is broadly slurred, just exactly as any one might whistle it in token of surprise; so it does not in the remotest way resemble a pure, clear tone such as that sung by the Chickadee. Moreover the bird has another

* Vide *Wood Notes Wild*, page 58.

call-note, very loud and *strongly burred*, to which he commonly resorts when annoyed or alarmed.



In Baird, Brewer, and Ridgway's *North American Birds* (vol. i., pg. 10) is this account of the song: "There is a solemn harmony and a beautiful expression which combine to make the song of this Thrush surpass that of all the other American Wood Thrushes"; it consists of "an inexpressibly delicate metallic utterance of the syllables *ta-weel'ah*, *ta-weel'ah*, *ta-wil'ah*, *twil'ah*, accompanied by a fine trill which renders it truly seductive. The last two notes are uttered in a soft and subdued undertone, thereby producing, in effect, an echo of the others." This description coincides perfectly with my first notation which represents with tolerable accuracy that duplication of the tones which the author calls an echo. Nelson considers the Veery's song the most spiritual one of all the wild-wood singers, and perhaps he is right, for the bird sings a vesper hymn to the dying day, and unless he stirred the deepest feelings of the heart at such a solemn hour, we could never have had these beautiful lines from the pen of Dr. van Dyke:

"The moonbeams over Arno's vale in silver flood were pouring,
When first I heard the nightingale a long-lost love deploring.
So passionate, so full of pain, it sounded strange and eerie;
I longed to hear a simpler strain—the wood-notes of the Veery.

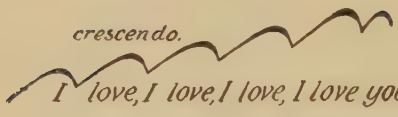
. . . . . .

But far away, and far away, the Tawny Thrush is singing;
New England's woods at close of day, with that clear chant are ringing;
And when my light of life is low, and heart and flesh are weary,
I fain would hear before I go, the wood-notes of the Veery."

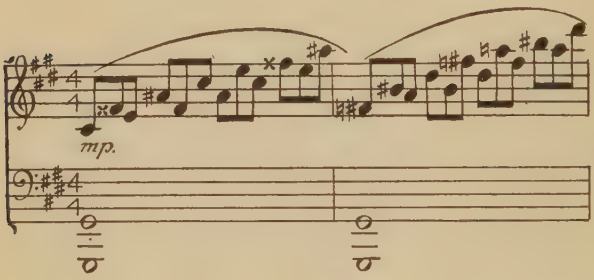
Olive-backed Thrush
Swainson's Thrush
Hylocichla ustulata swainsoni
L. 7.00 inches
May 20th

This Thrush is far more retiring than the Hermit Thrush. His home is preferably within the spruce or deciduous forests of the north, and usually at a considerable altitude. In coloring he nearly resembles the Hermit, but the tail is olive-colored like the back, and there is a *conspicuous ring of buff* about the eye. Upper parts brown olive including wings and tail. Under parts white with a suffusion of buff; spots on throat similar to those of the Hermit; round spots on breast at the *tips* of feathers; sides of the face from the bill backward clear buff with brown streaks. Female similarly marked. Nest built in low bushes or small trees, and situated about four feet or less from the ground; it is woven of coarse grasses, mosses, leaves, strips of bark, and fine rootlets. This Thrush appears in the middle States later in spring and earlier in fall than the Hermit; its breeding range is the same as his; it winters in the West Indies and Central and South America.

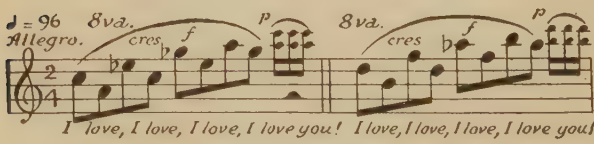
The song of Swainson's Thrush is one of the most charming examples of a harmony in suspension which it is possible to find in all the realm of music. The bird deliberately chooses a series of even intervals and climbs up the scale with a thought entirely single to harmonious results. How did he ever learn to do that? It is a question too difficult to answer. A zigzag line would best represent the song.



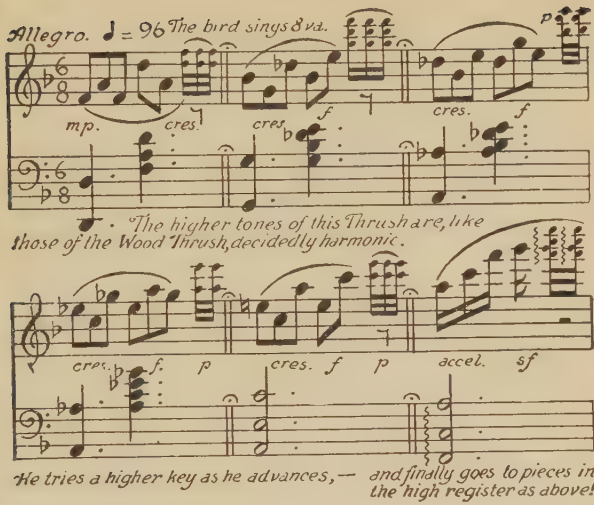
Constructively considered the music strongly resembles these somewhat meandering but soothing phrases in the first movement of Beethoven's *Moonlight Sonata:*



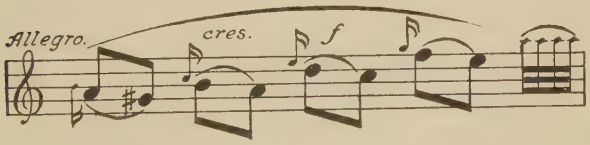
The great musician, however, goes slow and continues the theme; the bird does not, but after giving the third or fourth rapid group of notes, is dissatisfied with the pitch and tries a lower or a higher one, thus:



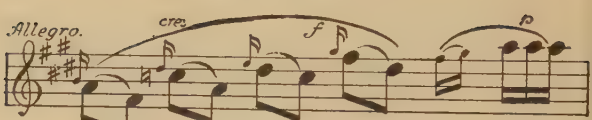
Like all the northern Thrushes, he is a transcendentalist, who is never satisfied with a creditable effort, but must try for something better and then "goes to pieces" in the attempt! Here is as near a representation of that idea as it is possible to get; notice how the bird continually tries for something on a higher key, and finally ends with a jumble of high notes:



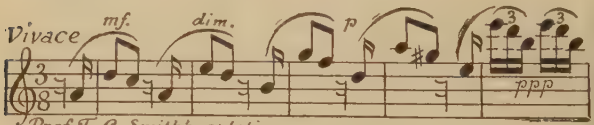
There are two ways of presenting the Olive-back's song, either of which is correct; there is a *very* slight overtone to the notes, and each one of the groups is rather closely connected with the next; therefore my following notation taken of a song heard in the Franconia Mountains, in June, need not be considered essentially different from the previous notations obtained in another locality nearly a month later.



Again, the next is a memorandum taken near Arlington Heights, Mass., where, on May 23d, the bird sang while on his way to his home in the spruce forest far in the north.



In a letter recently received from Prof. Theodore Clark Smith, of the Ohio State University, he gives me a musical sketch of a rather long song of the Olive-back showing a series of ascending note-groups not unlike my notation above.



Prof. T. C. Smith's notation.

This goes to prove that two observers have practically arrived at the same conclusion, after having studied the Thrush in widely separated localities—for Prof. Smith's notation was taken scores of miles away from Arlington Heights. I know of no other existing records of the Olive-back's music, and there are few descriptions of it in print. Dr. J. Dwight, Jr., of New York, writes, "The effect of the beautiful song is much enhanced by the evening hush in which it is most often heard. It lacks the leisurely sweetness of the Hermit Thrush's outpourings, nor is there pause, but in a lower key and with greater energy it bubbles on rapidly to a close rather than fading out with the soft melody of its renowned rival."

Hermit Thrush
Hylocichla guttata pallasii
L. 7.15 inches
April 15th

The Hermit Thrush, from a musical point of view, is certainly the Nightingale of America; there is no other woodland singer who is his equal. His coloring is not particularly bright; on the contrary, it is rather more subdued than the quiet brown tones of the Wood Thrush. Upper parts olive-brown (sometimes more of a cinnamon brown) merging into a decided light red-brown on the tail; the spots wedge-shaped at tips of

Hermit Thrush Olive-backed Thrush

feathers on sides of the throat; but round in the *centre* of feathers on the breast; they do not extend as far down over the under parts as they do upon the Wood Thrush; under parts white with a slight suffusion of buff. Female similarly marked. Nest on the ground; it is built of moss, coarse grasses, and leaves, and lined with rootlets and pine needles. Egg pale green-blue. This bird is common throughout eastern North America; it breeds from the northern United States northward, and southward in the higher Alleghanies to Pennsylvania; it winters from southern Illinois and New Jersey to the Gulf States.

The song of the Hermit Thrush is the grand climax of all bird music; it is unquestionably so far removed from all the rest of the wild-wood singers' accomplishments that vaunted comparisons are invidious and wholly out of place. Still, it is necessary to show the nature of this superb songster's pre-eminence, and that can only be done by comparing his style with that of other birds. According to Barrington's estimate of the comparative merits of English song-birds the Nightingale (*Philomela luscinia*) scores the highest mark in mellowness of tone and depth of expression; in compass of voice and facility of execution he considers the bird without a rival on the other side of the water. But Barrington did not know the Hermit Thrush, and it is doubtful, if he did, whether British prejudice would allow him to remove the Nightingale from the niche of fame and put in its place an American bird unknown to the poets. For think what that would mean! those who have sung the praises of the Nightingale are many and famous—Von Der Vogelweide, Petrarch, Gil Vicente, Shakespeare, Milton, Drummond, Cowper, Coleridge, Byron, Heine, Shelley, Keats, Longfellow, Arnold, Mulock, and Christina G. Rossetti. What a list it is! And shall the Hermit Thrush reach fame through the medium of greater minds than these? Note the beauty of this vivid pen-picture by Matthew Arnold:

"Hark! ah, the Nightingale—
The tawny-throated!

Hark from that moonlit cedar what a burst!
What triumph! hark!—what pain!

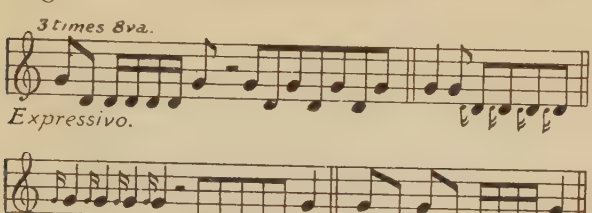
. . . . . .

Listen, Eugenia—
How thick the bursts come crowding through the leaves!
Again—thou hearest!—
Eternal passion!
Eternal pain!"

I wonder what he would have written in an ode to the American bird! certainly less about passion and pain, and more about musical bursts of triumph. As regards sentiment in a bird's song, that, as I have already said, depends upon one's state of mind; the passionate and plaintive notes of the Nightingale apparently have no place in the Hermit's song; our gifted Thrush sings more of the glory of life and less of its tragedy, more of the joy of heaven and less of the passion of earth. That is a purely human point of view all the more significant because one bird sings to the European, and the other to the American ear!

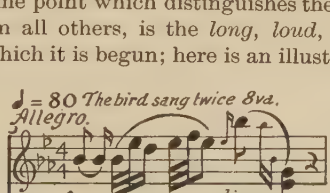
H. D. Minot, comparing English with American birds, writes, "the Nightingale had a most wonderful compass, and was the greatest of all bird vocalists, but with a less individual and exquisite genius than our Wood Thrush." In the vales of Tuscany, Italy, one of the best places in Europe to hear the Nightingale sing (possibly excepting the banks of the Volga, in Russia), there is ample opportunity to listen to the exquisite trills, and solemn overtones of that famous bird, but an experienced ear will not discover in the song anything like the melody of the Hermit Thrush. Musical notation is, of course, wholly inadequate to express the remarkable, appealing quality of the Nightingale's voice, but the construction of the song is perfectly represented; the following is a transcription taken from Lescuyer's *Langage et Chant des Oiseaux:* it shows how very simple the

construction is in comparison with that of the Hermit's song *:



Also, the next transcription, taken from Athanasius Kircher's *Musurgia Universalis* written as early as the year 1590, still more pointedly shows the extreme melodic limitation of the Nightingale; the fragment is a justly representative one (see page 238).

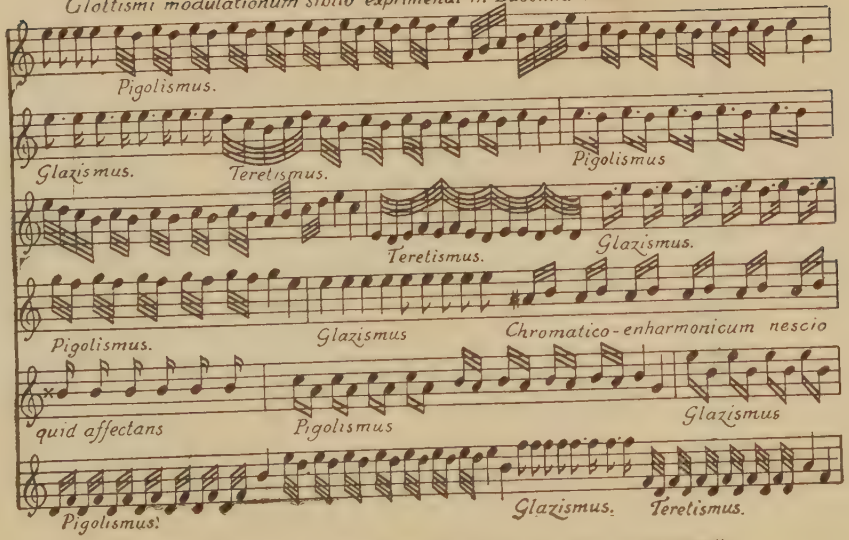
Now the Hermit Thrush is an altogether different kind of a singer, as the ensuing notations will show. He is brilliant in execution beyond description, as versatile in melody as a genius, and as pure in his tones as refined silver. It would be useless to attempt a representation of the song by a series of dots and dashes; the mechanical rhythm is completely overshadowed by the wonderful way in which the singer delivers his sustained tonic and then embroiders it with a rapid and brilliant cadenza. The one prime point which distinguishes the song of this Thrush from all others, is the *long, loud, liquid-clear tone* with which it is begun; here is an illustration:



*Un jeune compositeur vient de mettre en musique le chant du Rossignol. Voici les paroles de ce petit chef-d'œuvre:

Tiùu, tiùu, tiùu, tiùu,
Lpé tiù zqua ;
Quorror pipu,
Tio, tio, tio, tio, tix ;

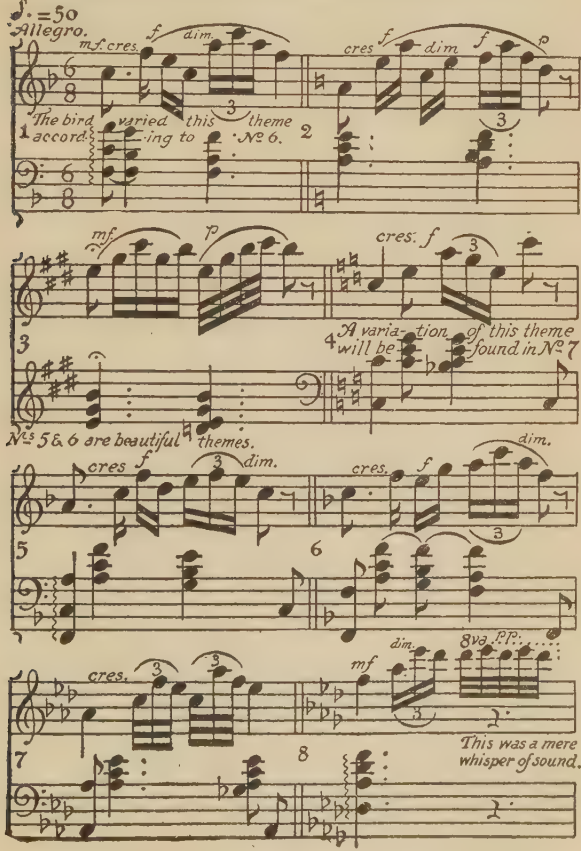
Qutio, qutio, qutio, qutio,
Zquo, zquo, zquo, zquo,
Zi, zi, zi, zi, zi, zi, zi, zi,
Quorror tiù zqua pipiqui !



Music of the Nightingale by Athanasius Kircher, in *Musurgia Universalis*.

This is completely beyond the ability of the Nightingale; it is a theme worthy of elaboration at the hands of a master musician; but the Hermit does his own elaborating as my succeeding notations will show.

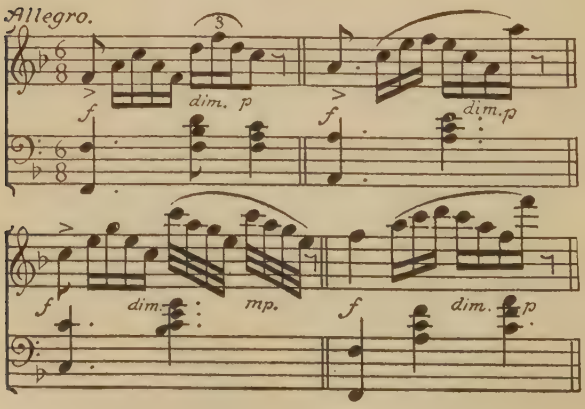
If there are those who suppose that the Veery is the only bird which sings late in the evening they are greatly mistaken, for here is a set of records taken from two Hermits which sang at ten minutes of eight on June 29, 1903, in a pasture directly behind my house in Campton, N. H.



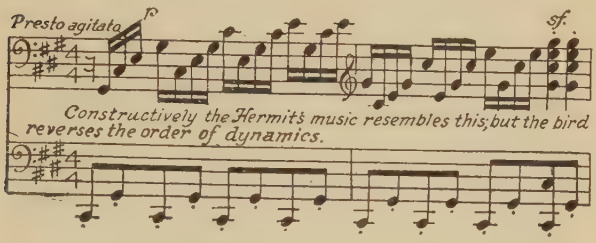
Some of the themes are in the minor key and some in the major; some are plaintive, others are joyous, all are melodious; there is no score of the Nightingale which can compare with such records as these; notice particularly the fifth one. It must be remembered, however, that bird songs are most ethereal things, a great deal like the wonderful tinting and delicate spiral weaving in Venetian glass; one must see the color or hear the melody in order to fully appreciate its subtile beauty; the song is charming because of its spirituality of tone and its depth of expression; how can the meagre outlines of music notation convey such truths! Who can justly report the Hermit's song! there is a silvery sustained tone like that of a flute, then a burst of brilliant scintillating music:

and the song 's complete,
With such a wealth of melody sweet
As never the organ pipe could blow
And never musician think or know!

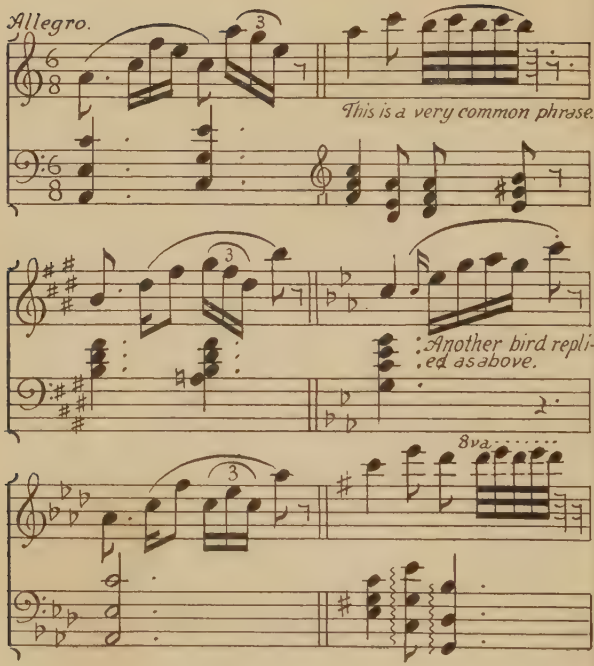
One of the most fantastic and perhaps extraordinary themes I ever heard from this Thrush, was obtained late in July, in the White Mountains:



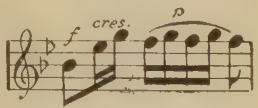
In structure it closely resembles that tempestuous and wild movement that opens the finale of Beethoven's *Moonlight Sonata:*



But Beethoven emphasizes the tonic at the close of the run; the Hermit does so in the beginning; both bits of music progress in presto time, and both rush onward to a high climax. The Thrush moreover is a transcendentalist, he climbs higher than his voice will carry, and like many another aspiring songster, makes a ludicrous failure of the highest notes. After one or two bad breaks, which apparently threaten the woodland symphony with the ignominy of disaster, the Hermit—who sings the *prima donna's* part in the score—seems to say to himself, after a short pause, "See here, my fine fellow, this will never do, that portamento was out of place, and the high note sounded like the whetting of a scythe! Try a lower key and silence that 'Swainson' over yonder mouthing his zigzag notes as though he were trying to make them creep upstairs! Shucks! Show him how to *soar!*" And the bird is at it again entirely oblivious of the fact that *he* steadily climbs *in keys* until he goes to pieces again somewhere around G sharp, twenty octaves higher than the limit of the piano! Such is the character of the singer and his song. But what a consummate tone artist he is! Not content with a single key, he deliberately chooses several in major and minor relationship, and elaborates these with perfectly charming arpeggios and wonderful ventriloquous triads, executed with all the technical skill of a master singer. And what a wealth of melody there is in his varied themes! Note the suggestive motives of the following record:

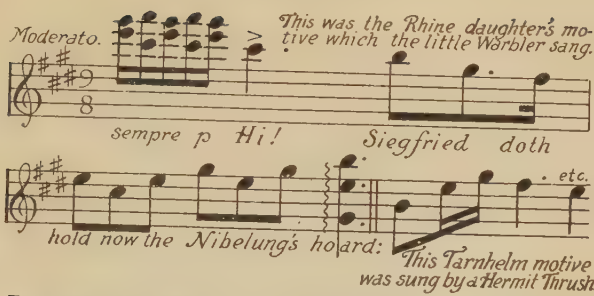


Wagner himself, in the *Ring of the Nibelung*, has scarcely given a better song to the bird that addresses Siegfried, than this which a Hermit Thrush gave me one afternoon on a ferny hill of Campton.

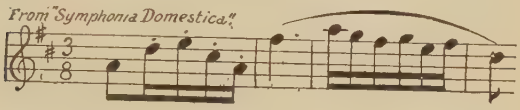


O! wheel-y-will-y-will-y-il.

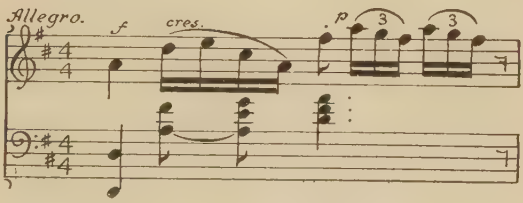
And how close it is to the last passage here in Wagner's music, which one will recognize at once as the Tarnhelm motive. The little bird sang this strain, together with the Rhine daughter's motive, to Siegfried.


Moderato.
This was the Rhine daughter's motive which the little Wörbler sang.
sempre p Hi! Siegfried doth
etc.
hold now the Nibelungs hoard:
This Tarnhelm motive was sung by a Hermit Thrush

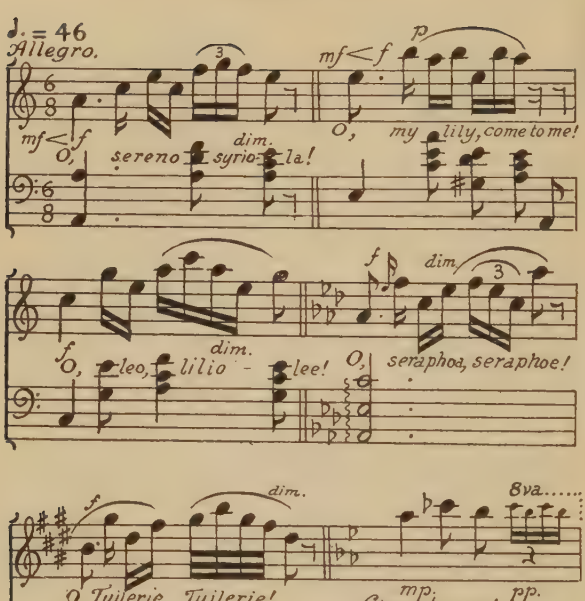
But we have not yet exhausted the resources of the musicianly Thrush. In Richard Strauss's *Symphonia Domestica* occurs this melodic phrase:



Either Dr. Strauss copied the Hermit or the Hermit copied Dr. Strauss (if we choose to think music is sometimes plagiarized), for the bird sang that very phrase, July 1, 1901, in a pasture in Campton, but this way:



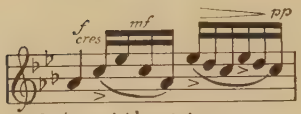
Somehow or other the motives of the Hermit all fit together in a remarkably harmonious fashion, and it is a very simple matter to combine the antiphonal songs of two singers so they form a unit of musical thought; here is a demonstration of that idea; I have not interfered in the least with the key or a single note of any one of the phrases.



There is nothing the Wood Thrush can do which will compare with a performance like this. I am sorry to disagree with the opinions of several writers on ornithology who find certain restrictions in the Hermit's song, and think the notes are not remarkable for variety or volume, but it seems to me, the magnitude of this Thrush's melodic ability, not to speak of his brilliant execution, is beyond the conception of any one until he devotes at least three or four seasons to a studied analysis of the music. Some of the notes possess sufficient volume to be *distinctly* heard at a distance of a quarter of a mile, yet unless one is within thirty feet or less of the singer, it is impossible to catch the *tout ensemble* of the song, or gauge the extent of its melodic variety.

There is an immense contrast in the dynamics of the song; it ranges from *pp* to *ff*; there is nothing of this kind which characterizes the Wood Thrush's music. Also, there is a remarkable, mysterious overtone, purely harmonic and ventriloquistic in quality, which at times dominates the cadenza of the song and holds the listener in rapt surprise! Unless one is very near the singer this, and all the wonderful pianissimo effects are completely lost. On the contrary, at near range, some of the more powerful notes are almost ear-splitting. I am not alone in this estimate of the Hermit's song, as the following lines from the pen of Prof. Theodore Clarke Smith will testify *: "The voice of the Hermit Thrush was made individual by overtones giving it a considerable richness and penetration and even a metallic burr or buzz. It suggested somewhat the reed-quality of the oboe superadded to a flute's open tone. . . . The 'burr' was audible at short ranges only. At a hundred yards or less it blended to give the voice a singularly ringing metallic quality which gave it a carrying power unapproached by any other bird of that region. . . . Heard from a very close range the long full notes were fairly piercing, so sweet, full, and vibrant were they. They were too loud for comfort, and when the bird suddenly began to sing while perched on a fence about ten feet from my tent it fairly made my ears ring." Prof. Smith has also stated that he heard this Thrush's song at a distance of fully three quarters of a mile over Lake Memphremagog. After such testimony as this it does not seem necessary to further refute the statement that the Hermit Thrush's song is lacking in volume. As for the variety of his notes, the notations herewith speak for themselves; and lest anyone should think these are a bit florid, I again take the liberty of quoting from Prof. Smith's article, and suggest that his following notation be compared with some of mine:

* Vide *The Ohio Naturalist*, Vol. III., No. 4, pg. 371. A Hermit Thrush Song. This is a truthful and most excellent analysis of the music of this remarkable Thrush, whose song is not as familiar to the bird-lover as it ought to be.



Prof. T.C. Smith's notation.

Undoubtedly we both have listened to the same species of Thrush, else the similarity of song-construction would be wholly unaccountable.

Wilson was apparently ignorant of the music of this Thrush, and many other writers have been content with recording the fact that the bird is an eminent vocalist, but Mr. Cheney as a musician valued the singer as only a musician can, and has compared the climax of the song to the bursting of a musical rocket that fills the air with silver tones! Yes, the tones *are* silver—burnished silver, and sweeter far than those of any instrument created by the hand of man! The singer, too, is a bird of genius; a gentle and retiring spirit; the first of the Thrushes to come, the last to go, the soonest to pipe his joyous lay after the clearing away of the storm, the last to sing the vesper hymn, and the earliest to open the matutinal chorus at break of day. It was of him the poet wrote:

"I heard from morn to morn a merry Thrush
Sing hymns of rapture, while I drank the sound
With joy—and oft an unintruding guest,
I watched him. . . ."

American Robin
Merula migratoria
L. 10.00 inches
March 10th, or all the year

Our Robin is unrelated to the English Robin Redbreast (*Erythaca rubecula*), and is a bird of distinctly different character and habits. Nor is he very similar in coloring. Head sepia-black; upper parts slate gray; tail sepia-black, the outer feathers with a white spot at the tip; eyelids and a spot above the eye white; throat white flecked with black; under parts ruddy burnt sienna; extreme under parts white. Female similarly but lighter colored; the head slate gray. Nest

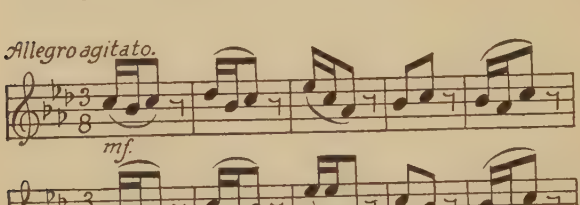
Bluebird

Robin

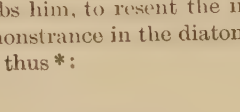
from six to twenty feet above the ground, in a tree near the house, sometimes under some sheltering projection of the house itself; it is coarsely constructed of grass, leaves, rootlets, and plant fibres woven into a mud wall or foundation, and lined with finer grasses. Egg a subdued green-blue without spots or rarely with fine brown ones. This bird is commonly distributed through eastern North America as far west as the Rocky Mountains; it is also found in eastern Mexico and Alaska; it breeds from Virginia and Kansas to the northern coast of British America, and winters from southern Canada (irregularly) southward. The birds begin breeding from the last of March to the middle of May, and sometimes two, or even three broods are raised. The Robin is essentially a ground bird, and spends a great deal of his time searching the meadow and lawn for worms and grubs.

The Robin's song is such a perfectly familiar one that it scarcely seems necessary to furnish any records for other than the interest which attaches to the melody. Like all birds this one greatly varies not only in song but in quality of voice; but every individual singer adheres closely to the mechanical rhythm common to the species. The notes are generally delivered in groups of three; sometimes a sprinkling of two-note groups occurs, but this forms no considerable part of the song. Expressed by dots the song should appear thus: . . .

for a Robin; notice that the fellow has made his own response to his own motive, a thing which not every bird can do by any means:

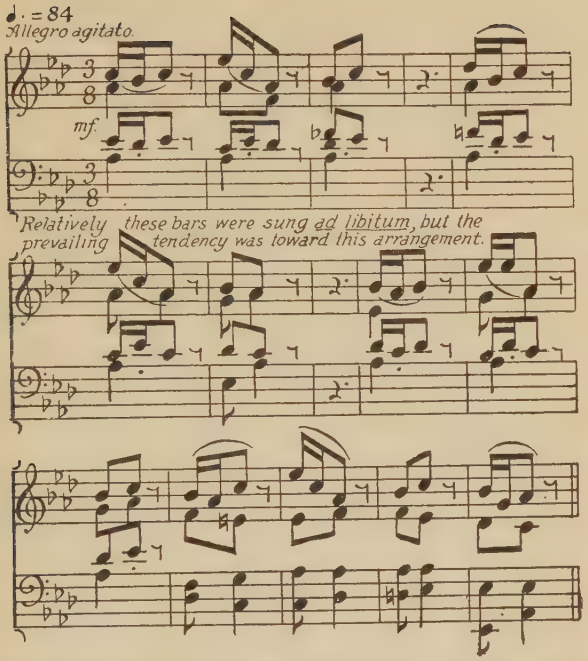


The key was a perfectly obvious one and the song though sung in the usual wild, disconnected way of the Robin was excellent in its intervals and its note values I have no record of a better song than that although others equal it. How characteristic it is of the Robin to sing in a nervous, hurried away, without ever a thought of the value of a sustained tone such as that which the Hermit Thrush gives us, and then when something or somebody disturbs him, to resent the interruption with an emphatic remonstrance in the diatonic scale or something akin to it, thus *:

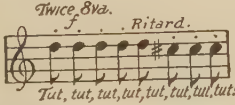


How natural it is, too, for another fellow to enter the breach and without altering the key, revise the arrangement of the theme, extend it, and proceed on independent lines in more insistant tones very nearly as follows:

* I wish this did not remind one so much of the opening notes of that popular piece, which is doomed to an ephemeral existence, called *Hiawatha*.

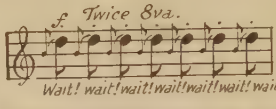

♩. = 84
Allegro agitato.
mf.
Relatively prevailing
these bars were sung ad libitum, but the tendency was toward this arrangement.

And if you listen to the first fellow, how out of patience he seems to be with the turn matters have taken! This is the way he seems to scold in an indignant *fortissimo* voice:



After that we are perhaps favored with a duet; but the singers stick to their own ideas and melodies regardless of each other, and the music becomes an unintelligible jumble. There is certainly a bit of rivalry going on, for Robin number one is getting excited and is hitting wildly at his notes in *allegro agitato* time in good earnest! It is a race now, no doubt, and one can not help thinking it is "every man for himself and the devil take the

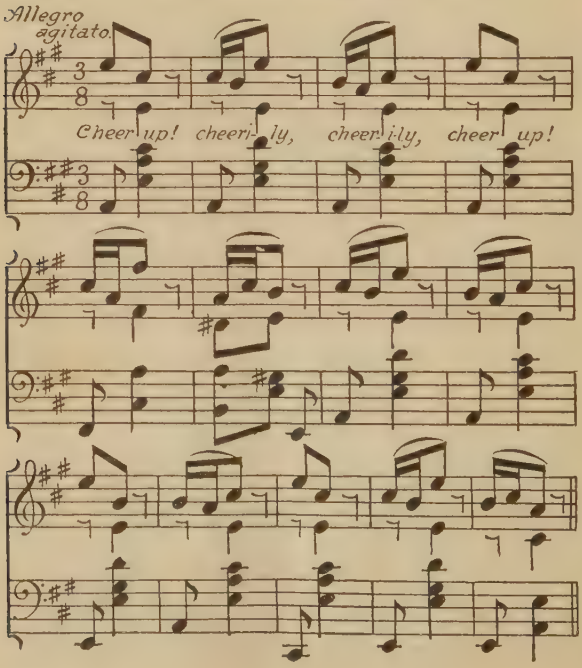
hindermost" until another interruption occurs and one of the birds fairly yells to the other in high staccato tones—



Taking the Robin according to his average conduct, he is a noisy fellow! But there is a host of good cheer in his music which the discriminating writer in *A Masque of Poets* early discovered:

"In the sunshine and the rain
I hear the robin in the lane
Singing 'Cheerily,
Cheer up, cheer up;
Cheerily, Cheerily, Cheer up."

These words fit the following music fairly well:

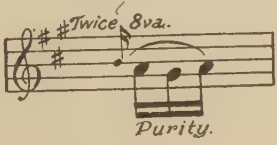


I have not altered the song in the slightest way in making this adaptation: the fit was a mere "happen so." But the vocabulary of the Robin is extensive; he might or he might not have sung the above lines to his *mate*, what *I* heard him sing was what I had learned from a book! How impossible it is to be a disinterested interpreter of bird music!

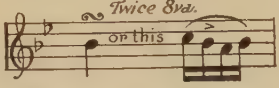
Bluebird
Sialia sialis
L. 7.00 inches
March 10th

This is one of the earliest birds to arrive in the spring; it is a question which we are likely to meet first, the Bluebird or the Robin, but not infrequently a flash of the cerulean color tells us the Bluebird has won in the race northward. His personal appearance is tasteful if not æsthetic. Upper parts including wings and tail ultramarine blue; there is a rusty tinge to the feather-tips in the fall; under parts a light burnt sienna or chestnut tone; feathers beneath the tail white. Female much paler in color; the upper parts gray-blue. Nest generally in the hollow of some old orchard tree, or often in the convenient "bird house"; it is lined with fine grasses. Egg a blue-white. This bird is common in the eastern United States as far west as the eastern slopes of the Rocky Mountains; its northern range-limit is Manitoba and Nova Scotia; it breeds throughout its range, and winters from southern New York to the Gulf States.

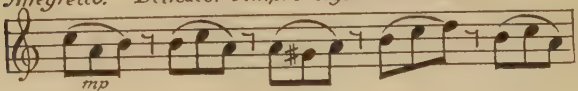
Before the snow has melted, and while the air is still piercing chill and the cold gray clouds chase each other across a forbidding sky, the key-note of the spring symphony is struck by a little Bluebird who is perched somewhere among the bare, brown branches of the old maple beside the road, or the apple-tree in the orchard. The tones are unmistakable, quavering, tentative, uncertain, a bit tender and sentimental, and far more appealing than the robust ones of the Robin; here they are:



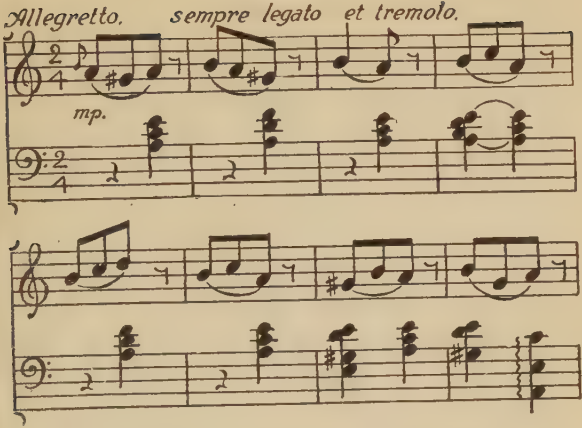
You may call that the Bluebird's *note* if you choose but there is a certain unsteady, bouncing character to it which can only be properly expressed by the grace note and the succeeding three notes; or, by this suggestive musical sign:



It is precisely the Bluebird's method to handle all his notes that way; the little singer does not seem to know how to rest steadily on any one tone! There is a pleading quality to his voice—a plaintive tenderness which is entirely due to the unsteady character of his notes. No Robin sings this way, however similar the notations of the two birds appear to the eye; for, if one expressed the Bluebird's music by dots it would look exactly like that of the Robin, and as a matter of course musical notation is little more than the scientific *placing* of such dots. It is therefore very necessary for the reader to pay strict heed to the Italian directions for expression; these will show the fundamental difference between the songs of the two birds. There is so little variety in the music of the Bluebird that the following record suffices to represent its fixed character; the scope of the voice is limited to a fifth, but as a rule the bird sticks pretty close to a minor third, and to the minor key:



Even when a number of Bluebirds are singing together very early in the morning, when one would suppose that the song would be at its best, I have scarcely ever heard a singer suggest the major. Here is a song, the minor key of which was unmistakably evident, that came to my ears at half-past five on a morning in June, 1902, in Dublin, N. H.



One of the most extraordinary effects of color I have ever witnessed in my life was exhibited by a Bluebird in full sunlight relieved against the sombre background of a thunder-cloud. It was in Middlebury, Vt., late in the afternoon when the sun shone slanting across the lawn adjoining the residence of a friend. He pointed out the bird to me, and upon viewing it through my opera-glass I was more than amazed. The breast was a light, æsthetic red suggestive of the conch-shell's color; the shoulders were a vivid *turquoise* blue! The feathers had an iridescent effect enhanced by a tiny flash of brilliant white which was the touch of the sun's strong rays upon the back of a black beetle held in the bird's mouth. What a revelation of color it was! I wondered at the time whether any one would believe it if I painted it; "most likely they would not," I said to myself, "that would be the penalty for reporting Nature in one of her eccentric moods!"

It may also be quite as difficult to think that a bird should have actually sung one of the melodies recorded in this volume; if so, the best way to overcome the difficulty is to take ears as well as eyes into the fields and listen not to every singer at once but to one at a time! Perhaps then, after the unravelling of Nature's tangled

gold and silver threads of melody, one strain may be heard far more beautiful than any of the musical fragments recorded here. The little bird is Nature's exponent of the joy of living; his song never dies with him, he passes it on! But the singer! where, what—so little indication is there of such a thing—is his end? Perhaps Rev. William J. Long has answered that question better than any one, in the *School of the Woods*. He writes as follows of the touching sight of a little aged wood Warbler which he found loitering beside the spring near his tent in the wilderness: "For several days I had noticed him there resting or flitting about the underbrush. . . . He was old and alone; the dark feathers of his head were streaked with gray, and his feet showed the wrinkled scales that age always brings to the birds. . . . Today he was quieter than usual; when I stretched out my hand to take him he made no resistance, but settled down quietly on my finger and closed his eyes. . . . As twilight came and all the voices of the wood were hushed, I put him back on the evergreen frond, where he nodded off to sleep. . . . Next morning he was closer to the friendly spring. . . . Again he nestled down in my hand and drank gratefully the drop of water from my finger tip. At twilight I found him hanging head down from a spruce root, his feet clinched in a hold that would never loosen, his bill just touching the life-giving water. . . . He had fallen asleep there, in peace."

A LIST OF THE SONG BIRDS OF THE PEMIGEWASSET VALLEY FROM THE FRANCONIA NOTCH TO PLYMOUTH, N. H., WITH THE APPROXIMATE DATES OF THEIR ARRIVAL IN SPRING.

Letters mean: v c, very common; c, common; r c, rather common; r u, rather uncommon; r, rare; v r, very rare.

Downy Woodpecker v c	All the year
Chickadee v c	All the year
White-breasted Nuthatch v c	All the year
Canada Jay r u High mountains	All the year
Robin v c	March 20
Bluebird v c	March 20
Bronze Grackle r u.	March 25
Song Sparrow v c	March 25
Swamp Sparrow r u	March 30
Phœbe v c	April 8
Cowbird v r	—
Red-winged Blackbird r u	April 10
Flicker v c	April 10
Purple Finch c	April 15
Vesper Sparrow v c	April 15
Pine Warbler r	April 20
Water Thrush r u	April 20
Chipping Sparrow v c	April 25
Myrtle Warbler r	April 25
Hermit Thrush v c	April 25
Savanna Sparrow r u	April 25
Ruby-crowned Kinglet r	April 30
Field Sparrow r c	May 1
Blue Jay v c	All the year, and May 1
Winter Wren c	May 5
Yellow-bellied Woodpecker r u	May 5
Snow Bunting c winter; departs	—
Purple Martin r c	May 5
Barn Swallow v c	May 5
White-throated Sparrow v c	May 5

Tennessee Warbler v r	——
Cape May Warbler v r	——
Chebec r c	May 8
Black-throated Green Warbler v c	May 8
White-crowned Sparrow r	May 10
Yellow Palm Warbler v r	May 10
Spotted Sandpiper r c	May 10
Chewink r u	May 10
Blue-headed Vireo r c	May 10
Cliff Swallow v c	May 10
Bank Swallow v c	May 10
Black and White Warbler v c	May 10
Chestnut-sided Warbler v c	May 12
Redstart v c	May 12
Oven-bird v c	May 13
Chimney Swift v c	May 15
Brown Thrasher c	May 15
Catbird v c	May 15
Wood Thrush v r, only one record	——
Kingbird v c	May 15
Baltimore Oriole r c	May 15
Bobolink v r	——
Indigo Bunting v c	May 15
Warbling Vireo r u	May 15
Nashville Warbler r c	May 15
Northern Parula Warbler r u	May 15
Yellow Warbler v r	——
Black-throated Blue Warbler r c	May 15
Magnolia Warbler r c	May 15
Maryland Yellow-throat v c	May 15
Veery v c	May 18
Junco c winter; departs	May 20
Whip-poor-will v c	May 20
House Wren v r	May 20
Black-billed Cuckoo v c	May 20
Nighthawk v c	May 20
Ruby-throated Hummingbird v c	May 20
Rose-breasted Grosbeak r u	May 20
Scarlet Tanager r u	May 20
Red-eyed Vireo v c	May 20
Wood Pewee v c	May 20

A LIST OF SPRING ARRIVALS.

Blackburnian Warbler v r	May 20
Black-poll Warbler v r	May 20
Bay-breasted Warbler v r	May 23
Wilson's Warbler v r	May 23
Canadian Warbler r c	May 25
Olive-backed Thrush v c	May 25
Bicknell's Thrush r u High mountains only	——
Goldfinch v c	May 25

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